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* Indicates that reports in the BIOS, CIOS and FIAT series are deposited in the Library of Congress Depository Libraries. For a complete list of these libraries, see page facing page 1, volume 5, of this Bibliography.

In addition to the indexes described on the back cover of this Bibliography, the Office of Technical Services has published the following reference works:

PB L 58101-R. SWIFT, GRACE. Government document series, analyzed by Office of Technical Services. Rev. Nov 1947. 45 p. Price: 25¢

PB L 78000. LOWRY, W. KENNETH. OSRD reports: Bibliography and index of declassified reports having OSRD numbers. Jun 1947. 105 p. Price: 75¢

PB L 79322. SWIFT, GRACE and ORNE, JERROLD. Subject headings for technical libraries. Jun 1947. 167 p. Price: $1.50

PB L 81803. U. S. OFFICE OF TECHNICAL SERVICES, TECHNICAL INDUSTRIAL INTELLIGENCE DIVISION. Reports resulting from the investigation of German technology, 1945-1946, and index of personnel. May 1947. 207 p. Price: $5.25

CHEMICALS AND ALLIED PRODUCTS

Drugs and Pharmaceuticals

PB L 78668. ADDINALL, CARL R. The commercial development and manufacture of synthetic hormones in Germany. (FIAT Final Rept 996) Jan 1947. 180 p. Price: Microfilm-$4.00 - Photostat-$12.00

The technical development of the synthesis of the estrogenic, androgenic, and adrenal cortical hormones and of the manufacturing processes employed in Germany for their commercial production from cholesterol and stigmasterol are reviewed. Procedures for the preparation of testosterone and progesterone from dehydroandrosterone, for the conversion of hydroxyetiocholenic acid to desoxycorticosterone, for the transformation of acetoxybisnorcholenic acid to progesterone and desoxycorticosterone, and for the reduction of estrone to estriol are described and charted. Full manufacturing details of the Schering A. G. processes for the synthesis of hormones from cholesterol and of the Schering and I. G. Farbenindustrie processes for the synthesis of progesterone from phytosterol are discussed. The original German directions for production are given in an appendix. They deal with (A) the oxidation of cholesterol, (B) the synthesis of testoviron, (C) the preparation of "Proluton" (progesterone from dehydroandrosterone acetate), (D) the preparation of "Proluton C" (pregnenin-ol) from trans-dehydroandrosterone acetate, (E) the preparation of estradiol from cholesterol, (F) the production of 3-acetoxy-etio-cholenic acid from the crude acids, (G) the production of "Cortiron" (desoxycorticosterone acetate) from 3-acetoxy-etiocholenic acid, (H) the preparation of progesterone from soyphytosterol, (J) the testing of acetic acid used in the production of hormones, and (K) the production of "Lutren" (progesterone). In Appendix II a transcript of an Austrian Patent Application of the Schering A. G. in Berlin is given, regarding the procedure for preparation of compounds of the cyclopentanopolyhydrophenanthrene series. Four patents and patent application relating to the Inhoffen aromatization process are mentioned in Appendix III, and a bibliography on related reports and relevant German publications is given in Appendix IV.

PB L 79162. CHAIWICK, LEIGH E. and HILL, DAVID L. Inhibition of cholinesterase by diisopropyl fluorophosphate, physostigmine and hexmethyl tetraphosphate in the roach. (CWS Medical Div Rept 107). Apr 1947. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00

By means of a manometric technique it has been determined that DFP, physostigmine salicylate, and HTP, in the concentrations which are toxic to the roach, inhibit the cholinesterase activity of the roach nerve cord in vitro and in vivo. The LD_{50}s were determined for the compounds by injection in aqueous solution. The toxicity of the compounds is largely a function of their anticholinesterase activity, although the possibility of other toxic merchanisms is not excluded. CWS Medical Div.

PB L 70056. I.G. FARBENINDUSTRIE, HOCHST, GERMANY. Reports on the preparation and testing of drugs, pharmaceuticals and intermediates from the pharmaceutical laboratory of the Hoechst plant. (FIAT Microfilm Reel D 26, Frames 1104-1572) 1931-1946. 467 f. Price: Microfilm-$6.00 - Enlargement Print-$47.00

This reel contains 67 items listed below by titles. Individual reports will be furnished as enlargement prints only, since the entire reel may be purchased as a microfilm for $6.00. Orders for individual reports should list the PB number (PB L 70056) and the frame numbers desired. In German.

Frames	Title	Price
1104 PB L 70056	Chaulmoogric ester. Feb 4, 1936. In German.	$1.50
1105-1107 PB L 70056	Preparation 2490 (detergent against head lice). Testing efficiency against ectoparasites. Jun 12, 1944. In German.	1.50
1108-1118 PB L 70056	Insect powder. Testing efficiency against ectoparasites. By Wagner. Oct 8, 1943 - Jun 8, 1944. In German.	1.50
1119 PB L 70056	Process for preparing muscle-adenylic acid ("Sarkolyt"). By B. n.d. In German.	1.50
1120 PB L 70056	Directions for the preparation of Pope-broth for Pneumococci culture. Feb 3, 1944. In German.	1.50
1121 PB L 70056	Penicillin. Discussion with Professor Schmidt, Marburg. By B. Oct 22, 1943. In German.	1.50
1122 PB L 70056	r-m-Hydroxy-nor-ephedrine hydrochloride. By Kircher. Jan 29, 1932. In German.	1.50
1123-1128A PB L 70056	Synthetic fats. File notes on a discussion regarding synthetic fat. The preparation of synthetic fats, their properties, and their physiological action, with special attention to the diet of diabetics. By Mietzsel. Dec 14 1944/Jan 19, 1945. In German.	2.00
1128B-1137 PB L 70056	Argoflavin. By Kircher. May 5, 1934/ Feb 21, 1936. In German.	1.50
1138-1145 PB L 70056	Glycine. By Lautenschlaeger and Bockmuehl. Sep/Oct 1932. In German.	1.50
1146-1151 PB L 70056	Preparation 5822 (methylurethane of m-hydroxphenylethyldimethylamine-hydrochloride). Feb 8,/Jul 17, 1937. In German.	1.50
1152-1163 PB L 70056	Arsenic titrating instrument "Bayer." By Eisenbrand. May 16, 1941. In German.	1.50
1164 PB L 70056	Preparation 8217 (Bud. "concentrated" vet. med.). By Hesse. Jul 16, 1940. In German.	1.50
1165-1174 PB L 70056	A thrombokinase preparation for performing the determination of prothrombin in the blood. By Schaumann and Bockmuehl. Aug 20, 1942- Jan 6, 1944. In German.	1.50
1175-1184 PB L 70056	Eudolat and its combination with a Novalgine derivative. By B. and Eisenbrand. Jul 13/Sep 15, 1938. In German.	1.50
1185-1189 PB L 70056	Preparations for cancer treatment. By Schnitzer. Jan 13, 1938- Jan 27, 1941. In German.	1.50
1190-1198 PB L 70056	Progesterone. By Beuchelt and Eisenbrand. Feb 1938-Feb 1943. In German.	1.50
1199-1207 PB L 70056	Preparation for cancer Treatment. By Schnitzer. Dec 18, 1937. In German.	1.50
1208 PB L 70056	Preparation Gr. 163 "vet" for treatment of hoof-and mouth disease. By Stephan. Apr 1, 1938. In German.	1.50
1209-1232B PB L 70056	Analgetica. By Schaumann and Bockmuehl. Sep 18, 1941-Jan 21, 1943. In German.	2.50
1233-1238 PB L 70056	Agents against mange of sheep. By B. Nov 17, 1943 and Oct 18, 1944. In German.	1.50
1239-1239B PB L 70056	Preparations similar to Santonin, directly effective against Askaris.	

by "Yakugyo Jiho". Mar 13, 1938. In German. 1.50

1240-1242 PB L 70056 — Preparation of glyoxylic acid from oxalic acid by means of sodium analgan. By Ketzer and Oswald. Jan 26 1938-May 4, 1939. In German. 1.50

1243-1247 PB L 70056 — Thyreochisin. Mar 19, 1937. In German. 1.50

1248-1257 PB L 70056 — Cancer-preparation "E" (Cadmium-Compound with diethylaminoethoxythiobenzimidazol-hydrochloride. By Fussgaenger and Kudicke. Oct 10/Nov 14, 1938. In German. 1.50

1258 PB L 70056 — Benzedrine substitute (1-phenyl-2-methyl-2-aminopropane-hydrochloride, preparation 9754). Sep 27, 1939. In German. 1.50

1259-1271 PB L 70056 — Cuprion (new copper preparation for combatting tuberculosis). By Fussgaenger. Jun 23, 1939/Mar 5, 1940. In German. 1.50

1272-1277 PB L 70056 — Iodo Vinarol (V.J. 100). Preparation for the treatment of dictyocaulus. Dec 16, 1940/Mar 27, 1943. In German. 1.50

1278-1302 PB L 70056 — Cancer preparation C/G. n.d. In German. 2.50

1303 PB L 70056 — Salvrgan substitute. By B. Oct 14, 1939. In German. 1.50

1304 PB L 70056 — Analgetics. By Bockmuehl. Apr 16, 1941. In German. 1.50

1305-1314 PB L 70056 — Cortenil (Synthetic suprarenal cortex preparation "Bayer"). By Eisenbrand. Jun 20/Jul 6, 1940. In German. 1.50

1315-1327 PB L 70056 — Agents for treatment of Lamblia intestinalis (preparation 3582). By Fussgaenger. May 25/Aug 19, 1938. In German. 1.50

1328-1329 PB L 70056 — Treatment of infectious diseases. (Leprosy, Lupus, Filaria, etc.). Dec 13, 1937. In German. 1.50

1330-1333 PB L 70056 — Vitamin P. Citrin (Hesperidin sulution). By Bartholomaeus. Oct 8, 1937. In German. 1.50

1334-1338 PB L 70056 — Detection of ethyleneglycol in Glycerogen. By Eisenbrand. Jan 31, 1945. In German. 1.50

1338B-1358 PB L 70056 — Glycerol substitutes. By Gross and Hellrung. Sep 8, 1937. In German. 2.00

1359-1365 PB L 70056 — Antisarnico and Carrapaticida. Combatting horse lice. By Pallaske. Mar 4, 1942. In German. 1.50

1366-1371 PB L 70056 — Inorganic sulfur compounds (agents against sheep manginess). By Hohorst and Pfaff. Jul 28, 1938/Mar 3, 1939. In German. 1.50

1372 PB L 70056 — Preparation of diphenylacetic acid. n.d. In German. 1.50

1373-1374 PB L 70056 — Preparation 9496 (substitute for "Desenol") marketed as "Dolantin." By Bockmuehl. Oct 31, 1940. In German. 1.50

1375 PB L 70056 — (Substitute for Desenol). Antispasmodic and analgesic 9496. By W. Nov 7, 1939. In German. 1.50

1376 PB L 70056 — Citrin dry preparation. By Middendonf, May 7, 1938. In German. 1.50

1377-1386 PB L 70056 — Vitamin combinations. By Eisenbrand and B. Sep 14, 1937-Oct 1, 1938. In German. 1.50

1387-1399 PB L 70056 — Antispasmodic B. By W. Nov 1936. In German. 1.50

1400-1403 PB L 70056 — Asthma agent "Eud." By W. n.d. In German. 1.50

1404-1406 PB L 70056 — Cedoran. n.d. In German. 1.50

1407-1413 PB L 70056 — Eudolat = Dolantin = Desenol. By W. n.d. In German. 1.50

1414-1423 PB L 70056 — Dolantin (Desenol), The problem of drug addiction. By Schaumann. Jun 10, 1941/Jan 13, 1942. In German. 1.50

1424-1429 PB L 70056 — Eudolat (1-methyl-4-phenyl-piperidine-4-carboxylic ethyl ester hydrochloride "Dolantin" ("Desenol"). By Eisenbrand and Schaumann. May 10/Jul 4, 1938. In German. 1.50

1430-1433 PB L 70056 — Antispasmodic (preparation 8909) = "Dolantin" ("Desenol"). By Schaumann. Apr 23, 1937. In German. 1.50

1434-1434D PB L 70056 — "Febrolon-Dolantin (Desenol)" combination. Nov 6, 1939/ Jan 22, 1940. In German. 1.50

1434E-1438 PB L 70056 — Asthma agent "Eud." By W. Jul 13/Aug 31, 1939. In German. 1.50

1439-1441 PB L 70056 — "Dolantin" drops. By Middendorf. Nov 20, 1939. In German. 1.50

1442-1453 PB L 70056 — Abortus "Bang" preparation 5154 (Acetate of N-phenyl-N-diethylaminoethoxphenylthiourea). By Persch and Grawert. Jul 11 - Dec 1, 1932. In German. 1.50

1454-1497 PB L 70056 — "Preloban" and other preparations of the anterior lobe of the hypophysis. By Fussgaenger and Schaumann. 1931-1937. In German. 4.50

1498-1524 PB L 70056 — Experiments on "Locarnol" (Pancreas preparation). Its fever stimulating effect. By Bausch and others. Dec 1936-Jun 1941. In German. 3.00

1525-1526 PB L 70056 — 3-methyl-4-hydroxycoumarin. By Bockmuehl and Schaumann. Apr 8, 1942/Jan 11, 1944. In German. 1.50

1527-1537 PB L 70056 — Hemodal. Dec 1940/Oct 1941. In German 1.50

1538-1549 PB L 70056 — Cyren preparations. Jul/Aug 1939. In German. 1.50

1550 PB L 70056 — Preparation of sodium pentachlorophenolate. Apr 11, 1940. In German. 1.50

1551 PB L 70056 — Cinnamon substitute. By Middendorf. Feb 24, 1943. In German. 1.50

1552-1556 PB L 70056 — Dyes for bacteriological and histological purposes. By Fussgaenger. Apr 8, 1940. In German. 1.50

1557-1563 PB L 70056 — Cyclopropane. By Pohl. May 31/Nov 9, 1938. In German. 1.50

1564 PB L 70056 — Preparation 10820. Feb 4, 1944. In German. 1.50

1565-1566 PB L 70056 — Simplified production method for tetraacetyl-l-xylono nitrile. By Hartmann. Apr 1, 1940. In German. 1.50

1567-1572 PB L 70056 — Ascorbic acid. The acid rearrangement of diacetone-2-keto-l-gulonic acid

hydrate. By Hartmann. Apr/May 1941. In German. 1.50

PB L 70056-S. I.G. FARBENINDUSTRIE, HÖCHST, GERMANY. Reports on the preparation and testing of drugs, pharmaceuticals and intermediates from the pharmaceutical laboratory of the Höchst plant. (FIAT Microfilm Reel D 26, Frames 1104-1572, abstract cards) 1931-1946. 67 p. Price: Microfilm-$2.00 - Photostat-$5.00
Brief abstracts of the individual items on the above reel, D 26, PB L 70056, prepared by FIAT personnel in Germany.

PB L 78265. MCCULLAGH, D. ROY. The production of crude and purified steroids in Germany. (FIAT Final Rept 902) Apr 1947. 16 p. Price: Xmso-50¢
This report contains information concerning the success of German industry in finding substitutes and in promoting new sources for cholesterol. Procedures used for the following purposes are given: 1. The production of crude cholesterol from several sources, 2. The purification of cholesterol, and 3. The manufacture of stigmasterol from soyabean oil. By following the directions herein reported and the information to be found in FIAT report No. 996 (PB L 78668), it is possible to manufacture many of these steroids (perhydrocyclopentenophenanthrene derivatives) starting with soyabean oil, wool wax, or spinal cord.

PB L 79157. NACHMANSOHN, DAVID and others. The in vitro reversibility of cholinesterase inhibition, by di-isopropyl fluorophosphate (DFP). n. d. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00
The in vitro reversibility of cholinesterase inhibition by DFP has been tested. It is shown that the inhibition is reversible for a certain length of time dependent on temperature and on inhibitor concentration. For a given temperature the optimum reversibility depends on the inhibitor concentration used. This optimum seems to have a rather narrow range. The in vitro inhibition of cholinesterase requires micrograms of DFP; the block of axonal conduction, milligrams probably because of the presence of a lipoid membrane surrounding the axon which acts as a barrier and leads to a considerable difference between inside and outside concentration at the time of action. Columbia University.

PB L 78750. NACHMANSOHN, DAVID and FELD, EMILY A. Studies on cholinesterase: IV. On the mechanism of di-isopropyl fluorophosphate (DFP) action in vivo. n. d. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00
In view of the high specificity of the action of DFP and its powerful effect on cholinesterase in low concentration, the coincidence of death and inactivation of cholinesterase suggests that the toxicity of the compound is due to its action on the enzyme. The activity of cholinesterase was determined with the manometric technique. The different ways of preparing the suspensions of the tissues are described and discussed with the results obtained. Bibliography and tables are attached. Columbia University.

PB L 79645. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Index of reports on chemical studies of pencillins, Jan 1, 1944 - Jan 1, 1945. 1945. 139 p. Price: Microfilm-$3.00 - Photostat-$10.00
The subject index covers chemical and physico-chemical investigations of penicillin and related compounds reported by CPS and OSRD investigators through January 1, 1945. The general principles and the nomenclature adopted for the preparation of this index are based as nearly as possible on the system used in Chemical Abstracts. Numerous cross references and explanatory notes are given and a formula index is provided to aid in determining the names chosen for index entries. The indexing system is described in Chemical Abstracts, 37,8015 (1943) and systematic naming in J. Am. Chem. Soc., 55,3905 (1933). The basic rules are outlined briefly in the introduction and key of this report. Abstracts of these penicillin reports start appearing in the Bibliography beginning with vol. 6, No. 7.

PB L 80194. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Infra-red studies of the structure of penicillin G and related compounds. Monthly progress report. By H. M. Randall. (OSRD CMR Randall Rept R 1). Oct 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a preliminary study and no conclusions have been reached. University of Michigan.

PB L 80195. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Infrared spectrographic studies on the structure of penicillin. Progress report. (Randall Rept R 2). Mar 1945. 39 p. Price: Microfilm-$1.00 - Photostat-$3.00
This is the first general report covering the contributions from the Department of Physics, University of Michigan. Some of the earlier findings have been included in the reports of laboratories which have sent samples for infrared measurements. While some specific problems are presented in this report, the major portion of it is devoted to reporting the spectra of penicillin and those compounds whose spectra for one reason or another seemed useful in the present study. The spectra of 79 compounds have been obtained and are discussed. Charts illustrating these spectra as well as tables of wavelengths together with the corresponding intensities are found in the body of the report.

PB L 80196. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Infrared spectrographic studies on the structure of penicillin. Replacement. (Randall Rept R 5a). Aug 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The two pages of this report are Chart XIII and are to replace the corresponding pages in the progress report for June 30, 1945 (Randall Rept R 5). However, Randall Reports 3 through 8 are missing.

PB L 80197. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Infrared spectrographic studies on the structure of penicillin. Progress report. (Randall Rept R 9). Oct 1945. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report is limited to the reproduction of the spectra together with the tabulations of the measured wave lengths of the sixty compounds tested. University of Michigan.

PB L 80198. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. A possible synthesis of methyl penicillin. Discovery report. (Randall Rept R 10). Nov 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
A study of the product resulting from the reaction between β-methyl penicilloic acid and phosphorus tribromide brought out certain hypotheses by the chemistry and infrared groups that this product is methyl penicillin. The University of Michigan.

PB L 80199. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Infrared spectrographic studies on the structure of penicillin. Progress report. (Randall Rept R 11). Nov 1945. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is a continuation of Randall Rept. R 9; PB 80197 in which the spectra and measured wavelengths are reproduced for 90 additional compounds. University of Michigan.

PB L 27912. JULIUS and HAECKEL. Dyes from 1.8 chloro-naphthyl amine. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6603-6606 of FIAT Microfilm Reel 5 A). Dec 1903. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Testing of 1.8 chloro naphthyl amine for suitability for azo dyes disclosed poor dyeing properties of the substance. In German.

PB L 27913. JULIUS and KELLER. Substantive cotton dyes from iso or terophthalyl condensation products of amino-naphthol sulfonic acid J. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6607-6626 of FIAT Microfilm Reel 5 A) Dec 1903. 10 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The preparation of iso- and terophthalic acids and of their condensation product with aminonaphthol sulfonic acid to form a substantive cotton dye is described. The coloring strength of these dyes proved extremely low, for which reason this process was not recommended. In German.

PB L 27914. JULIUS. New chrome black from α-naphthyl amine disulfonic acid-1,2,4. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6627-6633 of FIAT Microfilm Reel 5 A) Dec 1903. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A useful chrome black was prepared from α-naphthyl amine disulfonic acid-1,2,4, by replacing the sulfo group by hydroxyl, diazotization, and coupling with β-naphthol. It is suggested to check the process and try to reduce the cost of production. In German.

PB L 27915. GÜNTHER. New chrome black. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6634-6655 of FIAT Microfilm Reel 5 A) Dec 1903. 12 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Two ways of arriving at a new chrome black of high qualities are presented. The dye, amino naphthol sulfonic acid is prepared either from 2,1,5-naphthyl amine disulfonic acid and β-naphthol, or from 1,2,5-chloro naphthyl amine sulfonic acid by exchanging the chlorine atom. Very good chrome dyes in dark blue shades were obtained from 1,2,6 and 1,2,7 amino-naphthol sulfonic acids. Detailed directions for the laboratory preparation and large-scale production are included. In German.

PB L 27916. JULIUS and KELLER. Preparation of α-naphthyl amine 2,4-disulfonic acid from nitro naphthalene and alkali sulfites. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6656-6662 of FIAT Microfilm Reel 5 A) Dec 1903. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Several important points in the conventional process for preparing naphthyl amine 2,4-disulfonic acid from naphthalene and alkali sulfites are discussed. It is suggested to improve the process by boiling nitro naphthalene with sodium bisulfite and subsequent precipitation with an acid. In German.

PB L 27917. GÜNTHER. Substitution of a sulfo group in ortho position to the diazo group by hydroxyl by means of soda and hypochloride. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6663-6666 of FIAT Microfilm Reel 5 A). Dec 1903. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
An improvement in the above process was achieved by the following method of preparation: Substitution and oxidation (with soda and hypochloride) are performed in one phase, while the resulting sodium sulfite is eliminated immediately. Losses that otherwise occur are thus avoided. In German.

PB L 27918. LOHSE. Blue sulfur dye from p-p'-diethyl diphenyl amine at 240 degrees. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6667-6671 of FIAT Microfilm Reel 5 A) Dec 1903. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The process for preparing blue sulfur dye from p-p'-diethyl phenyl amine was checked. It was confirmed that the dye prepared at 180 degrees gives weak coloring, while the one prepared at 240 degrees yields a rich dark blue color and shows other valuable qualities. In German.

PB L 27919. GÜNTHER. Preparation of 2-4-dichloro-α-naphthyl amine sulfonic acid. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6672-6685 of FIAT Microfilm Reel 5A). Jan 1904. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
For the preparation of the subject item a new process is used for obtaining the starting product, α-aceto naphthalide, from α-naphthyl amine with the aid of acetic anhydride. The above substance is subsequently chlorinated and sulfonated as described in the report. In German.

PB L 27921. JULIUS and HAECKEL. Lacquer dye from chlorotoluidine sulfonic acid and beta-napthol. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6694-6697 of FIAT Microfilm Reel 5 A). Jan 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
It is claimed that the diazo compound of this acid is a valuable red dye. Preparation is described. In German.

PB L 27922. JULIUS and WINTER. Preparation of o-chlor-p-toluidine. (I. G. Farbenindustrie. Journal of Central laboratory dyestuffs). (Frames 6698-6704 of FIAT Microfilm Reel 5 A). Jan 1904. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
The method described in chlorination of p-nitro-toluene in presence of a catalyst. In German.

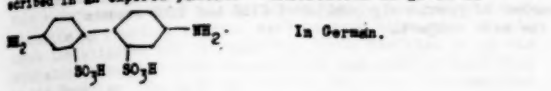
PB L 27923. JULIUS and FUSSENEGGER. "Azo acid black 3 bl," Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6705-6708 of FIAT Microfilm Reel 5 A). Jan 1904. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This dye was analyzed because of a patent litigation. Lightability is poor. In German.

PB L 27924. JULIUS and MAIER. Preparation of rhodamine from fluorescein chloride and amines. (I. G. Farbenindustrie. Journal of Central laboratory of Dyestuffs). (Frames 6709-6721 of FIAT Microfilm Reel 5 A). Jan 1904. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
For the purpose of preparing rhodamine from fluorescein chloride and amines tests were made as to whether it is preferable to chlorinate fluorescein with thionyl chloride rather than with phosphorus pentoxide. The yield was good as far as fluorescein is concerned, that of rhodamine was poor. The result of the experiments was negative. Reproduction is poor. 7 pages are in German script. In German.

PB L 27925. FUSSENEGGER. Substantive yellow (paper yellow). (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6722-6725 of FIAT Microfilm

dyes (contd)
Reel 5 A). Jan 1904. 3 f. Price: Microfilm-$1.00-Enlargement Print-$1.50
Analysis of this dye showed that it was identical with yellow dyes already on the market, based on "azoxystilbenedisulfonic acid." Analysis had been requested by a firm. Legibility is poor. In German.

PB L 27926. JULIUS and FUSSENEGGER. Acid anthracene Red 6, Elberfeld. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6726-6731 of FIAT Microfilm Reel 5 A) Jan 1904. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This dye was analyzed and found to be identical with one described in an expired patent. Constitution is given as



In German.

PB L 27927. HOHSE. "Rhodamin 5 G," Elberfeld. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6732-6736 of FIAT Microfilm Reel 5 A) Jan 1904. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The isolation and purification of this substance are described. It is claimed that a similar substance from another source is, in fact, identical. This is entirely in handwriting in German script. Part is illegible.

PB L 27928. ANORGANA G.M.B.H., GENDORF/OBERBAYERN, GERMANY. Preparation of alpha-naphthyl amine disulfonic acid from nitronaphthalene and alkalisulfites. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6737-6743 of FIAT Microfilm Reel 5 A) Jan 1904. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The experiments are described and listed in a table. Further investigation was contemplated. The description is in German script and not very legible.

PB L 27929. JULIUS and FUSSENEGGER. "Amidophenolrot G and 6 B", Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6744-6756 of FIAT Microfilm Reel 5 A). Feb 1904. 8 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
These dyes were analyzed and their identities established. Legibility is not very good. Several pages are given over to color samples which, photographed in black and white, do not differ from each other. In German.

PB L 27930. LOHSE. Method of production of p-phenylamido p-oxy-diphenylamine by oxidation of p-amidodiphenylamine and phenol. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs) (Frames 6757-6761 of FIAT Microfilm Reel 5 A) Feb 1904. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Production of p-phenylamido-p-oxy-diphenylamine by oxidation of p-amidediphenylamine and phenol and followed by reduction by metanil acid diphenylamine with aid of zinc and hydrochloric acid is described in detail. In German.

PB L 27931. JULIUS and ALBRECHT. Substitution of the diazo in o- diazo compounds of the naphthol series by hydrogen. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6762-6770 of FIAT Microfilm Reel 5 A). Feb 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
Several isomers of the above sulfonic acids series were obtained with reduction agents such as zinc dust in a neutral or alkaline medium. The document is damaged. Structural formulas are faded. In German.

PB L 27932. JULIUS and FESSENEGGER. "Diamantblau, R, Bayer". (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6771-6778 of FIAT Microfilm Reel 5A). Feb 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document concerns analysis and production of the above wool dye from 1 naphthyl amine sulfonic acid and of alpha-naphthol 5 sulfonic acid. The document is faded, written in German script and contains no formulas. In German.

PB L 27933. MÜNCH. Sulfur dye from 2,4 dinitro,3',5'-dichloro 4' hydroxy diphenylamine produced according to French patent Nr 336630, Höchst. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6779-6782 of FIAT Microfilm Reel 5 A). Mar 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document contains an investigation on the above subject. Due to fading of the print the document is only partly readable. In German.

PB L 27934. MÜNCH, B. Preparation of 3 -amino 5-nitro o- toluidine from its di-acetyl compound. (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6783-6790 of FIAT Microfilm Reel 5A). Mar 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
A description of the above reaction using sodium hydroxide as hydrolysing agent is given in detail. Coupling reactions with diazo naphtalene derivatives to form characteristic dyes proved the constitution of the compound to be as above. In German.

PB L 27935. JULIUS and FUSSENEGGER. "Heliopurpurin 7 BL and 4 BL". (I. G. Farbenindustrie. Journal of Central laboratory for dyestuffs). (Frames 6791-6798 of FIAT Microfilm Reel 5 A). Mar 1904. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document consists of a report on the above dyes. The greater part is written in faded German script. The short summary is readable only in the part concerning "heliopurpurin 4 BL" produced from β-naphtylamine 3,8-disulfonic acid and β-naphthol.

PB L 27936. LOHSE. Production of p-amino diphenylamine from metanil yellow and production of p-phenyl amino-p'-hydroxy diphenylamine. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6799-6803 of FIAT Microfilm Reel 5 A). Apr 1904. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This document describes the production of the two above compounds on a pilot plant scale. The first product is obtained from metanil yellow by reduction with zinc and hydrochloric acid. The second product, p-phenyl amino-p'- hydroxy diphenylamine is obtained from p-amino diphenyl amine in two steps. First an indophenol dye is produced by oxidation with sodium bichromate and phenol in acetic acid medium. By subsequent reduction with sulfur and sodium hydroxide the p-phenyl amino-p'- hydroxy diphenylamine is obtained. The document is written in faded German script, not always readable.

PB L 27937. HAECKEL. Derivatives of dinitrorhodanbenzene. (I. G. Farbenindustrie. Journal of Central laboratory for Dyestuffs). (Frames 6804-6811 of FIAT Microfilm Reel 5 A). Apr 1904. 5 f. Price: Microfilm-$1.00-Enlargement Print-$1.50
Investigations to find technical applications for dinitrorhodanbenzene and its derivatives were the purpose of this document. Dinitrorhodanbenzene was obtained easily from trinitrobenzene with potassium thiocyanide. Six derivatives were produced but no practical application was found. The document contains a detailed description of the formation of xanthic acid. In German.

Dyes (contd)

*PB L 60946-R, PB L 60946-R-1, PB L 60946-R-2, PB L 60946-R-3. ROBITSCHEK, F. O. Dyestuffs manufacturing processes of I. G. Farbenindustrie A. G. (FIAT Final Rept 764 Rev. vols. 1-4). Apr 1947.

PB No.	Vol.	Pages	Price: Mimeo
60946-R	1	95	$2.50
60946-R-1	2	102	2.75
60946-R-2	3	79	2.00
60946-R-3	4	103	2.75

This report is an index of the dyestuffs manufactured by I. G. Farbenindustrie, the manufacturing details of which are recorded on microfilm. Prints of these films are available through the Office of Technical Services, U. S. Department of Commerce, Washington, D. C. Each of these products is an individual chemical and no blends are included. The dyestuffs are listed both in alphabetical and systematic order. The two indices contain for each item the German name, percentage of uncut material, percentage of sales type, place of manufacture, reel and frame number of the microfilm. Whenever possible reference is made to "Schultz's Farbstoff Tabellen." The report is split up into four volumes. Volumes 1 and 2 comprise the alphabetical index, volumes 3 and 4 the systematic register and the appendices. This report is a revised edition of PB 60946 which appears in vol. 4, page 852 of the Bibliography.

Paints, Varnishes and Lacquers

PB L 78676. BENEMELIS, R. L. and others. Investigation of cuprous oxide anti-fouling paint. II. Inactivation of highly pigmented films containing metallic copper. (Nav Res Lab Rept P-2922; Nav Res Lab Problem P-90). Jul 1946. 34 p. Price: Microfilm-$1.00 - Photostat-$3.00

An earlier investigation has established the fact that highly pigmented films containing metallic copper perform as cathodes when applied to steel surfaces and immersed in the sea. It is a well recognized fact that copper cathodes are readily fouled when exposed to environments of high fouling intensity. The present investigation describes experiments designed to establish the degree to which highly pigmented films containing metallic copper may become inactivated when in contact with steel. The findings are in close agreement with predictions made from electrical conductivity measurements on similar films. Films pigmented with cuprous oxide are not inactivated irrespective of pigment-volume ratio. Films containing metallic copper become inactivated at pigment volumes above 30% when applied to steel surfaces, but continue to afford ample protection when used over wood surfaces. The conclusion is reached that for paints intended for application to steel, metallic copper pigments should be avoided at concentrations above 25% pigment volume. Tables and graphs are included. For Part 1 of the report by R. L. Benemelis and others, see Nav Res Lab Rept P-2676, PB 23127, v. 2, p. 315, this Bibliography.

PB L 30862-A. U. S. BUREAU OF AERONAUTICS. Compound, rubbing (for lacquered surfaces). (NAVAER Specification M-773-1). Sep 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 14974. U. S. BUREAU OF ORDNANCE (NAVY). Compound, rust-preventive, thick-film (pigmented and nonpigmented). 1945. 8 p. Price: Microfilm-50¢ - Photostat-$1.00

PB L 14975. U. S. BUREAU OF ORDNANCE (NAVY). Compound, rust-preventive, thin-film (polar-type). 1945. 13 p. Price: Microfilm-50¢ - Photostat-$1.00

Ordnance Chemicals

*PB L 79299. GARTON, A. J. German pyrotechnic dyestuffs and synthetic consolidating materials to obviate the pressing of pyrotechnic compositions. (BIOS Final Rept 432, Item 17, 22). Jan 1946. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00

Additional information is given on the composition of German pyrotechnic dyestuffs. Appendix A describes the manufacturers process for making Hibran wax; appendix B gives the composition of a number of pyrotechnic compositions of J. G. W. Berkoholtz & Sohne, Hamburg. The report lists a number of previously published CIOS and BIOS reports on the same subject.

*PB L 79445. MAYES, H. A. and SMITH, C. M. Testing and safety precautions in connection with industrial explosives. (BIOS Final Rept 1269, Item 2). n. d. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00

Four explosive factories were visited for the purpose of obtaining information relevant to the work of the technical advisers to the Home Office Explosives Department, which is concerned with the technical aspects of the application of the Explosives Acts and, in part, deals with such matters as safety in manufacture and use, storage properties, and methods of testing of industrial explosives. In this report items of more general interest are briefly reported under the heading "General Safety Precautions" while the more detailed matter is dealt with under the names of the various factories.

PB L 79151. THOMAS, JESS W. The starch-potassium iodide PS indicator. (CWS Tech Div Memo Rept 1310). May 1947. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00

The standard PS (chloropicrin) indicator has been found to be unsuitable for intermittent PS tests and for the quantitative determination of PS. A new indicator, containing a greater concentration of KI, has been developed which will absorb low concentrations of chlorine quantitatively from pyrolyzed PS. The sensitivity of the new indicator is about 7.5 to 40 mg. PS/liter at 70° F. (as compared with 40 to 200 mg. PS/liter). Tables and graphs are included.

PB L 79450. U. S. WAR DEPARTMENT. Military chemistry and chemical agents. (Tech Manual 3-215). Apr 1942. 71 p. Price: Available from Supt of Docs. $0.25

This manual discusses the fundamental concepts necessary in the understanding of the nature and reactions of chemical warfare agents.

Chemical Engineering and Equipment

*PB L 80364. CARRUTHERS, A. and FIELD, T. H. The application of ion exchange resins for the purification of sugar juices. (BIOS Final Rept 1249, Item 22). Dec 1946. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

Ordnance Chemicals (contd)

An investigation of the operation of the pilot plant erected at the Beet Sugar Factory, Oestrum, for the purification of juices by the application of the Wofatit ion exchange resins. The following data are covered: Description of ion exchange plant, operation of KS filters for cation exchange, operation of M filters for anion exchange, operation of "Puffer" or "P" filter (small M filter for final filtration), data on purification achieved, treatment of molasses, treatment of raw juice, data on raw juice purification, and notes on manufacture of the Wofatit resins KS and M.

* PB L 80371. DENNIS, N. German carbide and cyanide industry: Manufacture of calcium cyanamide. (BIOS Final Rept 1046, Item 22). Apr 1947. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00

This report is on the fixation of atmospheric nitrogen into cyanamide by reacting calcium carbide with nitrogen. In all cases investigated the nitrogen was first isolated in an air separation plant and then reacted with the carbide according to the formula: $Ca\,C_2 + N_2 \longrightarrow Ca\,CN_2 + C$. The manufacture is carried out in three different types of apparatus: (A) Vertical refractory lined units at Trostberg, (B) tunnel kilns at Waldshut and Knapsack, and (C) continuous rotary kilns at Knapsack. The three methods are outlined and accompanied by photographs and diagrams.

* PB L 80349. ELLIS, J. F. Engineering in hydrogenation plants in Germany. (BIOS Final Rept 977, Item 30, 31). Mar 1946. 152 p. Price: Microfilm-$4.00 - Photostat-$11.00

The engineering notes included in CIOS reports dealing with hydrogenation plants have been collected and supplemented by further information obtained from examination of evacuated documents. In some sections the information is scanty because at the time emphasis was on new techniques and developments of old ones, and details of plant similar to that in Great Britain were not obtained. The three outstanding features were the development of wound pressure vessels (wickel ofen), automatic control of hydrogenation units at Seuna, and the incomplete but very instructive development of a steel for 700 Ats. preheaters which had a creep strength of 15 T/in^2 at 500° C. Achieved construction cost data for a number of plants were also obtained.

* PB L 80374. LAWRENCE, J. and others. Kalichemie, Henningen. Barium compounds, hydrogen peroxide, sodium perborate, sodium percarbonate. (BIOS Final Rept 1432, Item 22). Jan 1946. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00

In this report a general description of the process, output, detailed description of plant and processes, raw materials, usages, and efficiencies is given.

* PB L 80366. NICHOLAS, D. C. Report on investigation of the Hessische Celluloid Fabrik at Pfungstadt, Nr. Darmstadt, Hesseland. (BIOS Final Rept 1388, Item 22). Nov 1946. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00

Report on investigation of spirally wound fountain pen and propelling pencil barrels made by the spiral winding and longitudinal seaming processes. Design and construction and operation are covered in the report. Patents are listed. Seven photographs of the equipment are included.

Miscellaneous Chemicals

* PB L 80345. ADAMS, D. A. W. and others. I. G. Farbenindustrie: The manufacture of the chlorotoluenes and of the derived chloronitrotoluenes, chlorobenzaldehydes, chlorobenzoic acids, etc. (BIOS Final Rept 1145, Item 22). Jun 1947. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00

This report covers the manufacture of intermediates in the I. G. Farbenindustrie which deals with the production of the chlorotoluenes, their nitration products, and their side-chain chlorinated derivatives and hydrolysis products. Plant drawings and flow diagrams are attached.

* PB L 79578. BAIRD, W. Miscellaneous surface-active agents and related intermediates. (BIOS Final Rept 1151, Item 22). Sep - Oct 1946. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00

Information has been provided on the methods of manufacture of miscellaneous surface active products and related intermediates by I. G. Farbenindustrie, Henkel et Cie (Dusseldorf), Ruhrchemie (Sterkrade-Holten) and Goldschmidt of Essen as follows: 1. Higher alcohols, 2. Sulfated alcohols and the like, 3. Higher nitroparaffins, 4. Miscellaneous intermediates and products of I. G., 5. Miscellaneous products of Henkel et Cie, and 6. Surface-active products of Goldschmidt, Essen. Photographs and diagram appear in the report. Two appendices are attached.

* PB L 85143. BLUMENTHAL, L. M. Activated carbon production in Germany during the war. (FIAT Final Rept 1161). Jun 1947. 22 p. Price: Mimeo-$0.75

The report gives a general review of significant German developments during the war. Particular attention was paid the use of gas absorption carbons in the Fischer-Tropsch synthesis. An effort was made to combine activated carbon with regenerated cellulose in a satisfactory manner. Details and complete descriptions of various processes and applications are contained in the report. Attached are lists of German personnel interviewed, and targets visited, tables of plant production, trade names and designation of active carbons.

* PB L 80343. BRAILEY, L. N. Physical characteristics of rubber; and high intensity gas-filled discharge lamps. (CIOS File XXXIII-25, Item 22 & 31). Jun 1946. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report gives an account of information obtained by interrogation of German technicians: (A) Information on "Research on rubber for fatigue and damping characteristics" obtained from Prof. Föppl, chief of Wohler Institute, Brunswick, and (B) Information on "High intensity gas-filled discharge lamps" obtained from O. Schöttler of Technische Hochschule, Hanover.

* PB L 80331. DIRENGA, O. G. and LEAPER, P. J. Production of acetylene from methane in a regenerative type furnace. Ruhrchemie A.G., Oberhausen - Holten. (FIAT Final Rept 1079). n. d. 50 p. Price: Mimeo-$1.50

About 10 years ago, Ruhrchemie Holten carried out experimental and pilot plant work on the production of acetylene from methane, by an intermittent process in which the methane is subjected to temperatures of 1400-1600° C at a pressure of 0.1 atmosphere absolute. The reaction vessel is a furnace filled with suitable packing. The process operates on a one minute heating-one minute reaction cycle. Methane is used for the heating as well as for the reaction. It was found that approximately 36% of the reaction-methane is converted to acetylene, 36% cracked to carbon and hydrogen, and 28% remained unchanged. The ratio of acetylene to carbon formation depends critically upon the reaction-pressure, and even a slight increase of the pressure shifts the ratio in favor of carbon formation. This report covers the experimental work done, and the conclusions derived from it. During the war, Ruhrchemie was engaged in the design of a large plant for a firm in Hungary. The design was largely completed, and drawings of important equipment units, flow sheets, manufacturing, and construction cost estimates for the projected plant are included. The plant was never constructed.

* PB L 80334. FULLER, D. L. and others. Manufacture of butynediol (and certain related materials) from acetylene

and formaldehyde. (FIAT Final Rept 926). n. d. 59 p. Price: Mimeo-$1.50
Many details on the plant manufacture of butynediol and butanediol and on the laboratory work on butenediol and propargyl alcohol are discussed, that have not appeared in earlier reports. In this report considerable attention has been given to the handling of the butynediol catalyst. The information is based on discussions with numerous chemists at Ludwigshafen and concerns mainly the operations as carried out during the summer of 1946.

PB L 52008. GERMANY, REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte, Nov 1941. Nov 1941. 174 p. Price: Microfilm-$4.00 - Photostat-$12.00
This issue of the Chemische Berichte contains reports of two meetings: I. First meeting of the cooperative group for cellulose, Nov 1, 1940, and II. First meeting of the cooperative group for sulfur, Jan 24, 1941. Abstracts of the papers follow. The papers will be available in photostat form. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
First meeting of the cooperative group for cellulose, Nov 1, 1940.		
6-7 PB L 52008	List of participants. In German. The names of the representatives of various governmental agencies, industrial enterprises, universities, etc., who were present at the meeting are listed.	$1.00
8 PB L 52008	Introductory remarks. In German. Problems and tasks of the various cooperative groups are outlined.	1.00
9-21 PB L 52008	BRECHT, W. (Tech. Hochschule, Darmstadt). Comparative studies on the barking of wood. In German. A well-illustrated article which deals with the Waldhof beechwood barker, knife barker, and drum, Thorne, and Sehongau water-jet frictional barkers. Special emphasis is placed on the latter. Comparative data on wood loss, output, operating costs, space requirements, and power consumption are given.--From Chemical Abstracts.	1.00
22-40 PB L 52008	KIRMREUTHER, H. (Papier-Zellstoffwerke H. G. Feldmühle, Berlin, Germany). Technical reasons for the dominant position of the sulfite process in the German pulp industry. In German. In 1937, German sulfite pulp production (about 1,284,000 tons) was outranked only by the U. S. A. and Sweden, whereas kraft pulp production in Germany was only 65,000 tons. The soda and sulfite pulp industries are compared. The tech. reasons for the rapid rise and dominance of sulfite pulp manuf. in Germany are discussed at length.--From Chemical Abstracts.	2.00
41-53 PB L 52008	KLEINE, J. (I. G. Farbenindustrie A. G., Wolfen, Germany). Special features of the nitric acid digestion of wood. In German. A detailed illustrated article gives data obtained at the Wolfen mill manufg. HNO_3 pulp (termed "N-cellulose"). Beech or poplar chips are impregnated with 14% HNO_3 at temps. below 50°. This causes oxidation of the lignin (which is converted into carboxylic acids of high mol. wt., isosaccharinic and dihydroxybutyric acid, $(CO_2H)_2$, and CO_2). A part of the HNO_3 is reduced to NH_3. Inasmuch as the oxidation is exothermic, steam consumption is kept at a min. The liquor is drained off and replaced with H_2O, which is circulated throughout the 7-hr. digestion (carried out at temps. not above 100°). The waste liquors retain less than 1% HNO_3, and the pulp shows practically no oxidative degradation of cellulose. The pulp is purified by treatment with Cl, followed by alkali extn. at 25°. Details are given for recovery of NaOH. The purified pulp (I) (yield 38.8%) contains 98.2% α-cellulose, 1.7% hemicelluloses, and shows a degree of swelling of 230, Cu no. 0.6, and degree of polymerization of 1400. (I) resembles purified cotton linters very closely, and in Germany replaces linters in the formation of cupra and acetate rayons, acetate foils, and cellulose ethers. (I) forms excellent blotting and filter papers, but care must be taken in the water used in its prepn. because (I) sorbs Fe and Ca compds. very readily, and their removal is virtually impossible. Chain-length distribution diagrams of beechwood (I), linters, and of com. soda, sulfate, and sulfite pulps are given. Tabulated chem. data are also included for the so-called beechwood "alpha-lint," spruce "cello-lint," and "heliolint." The manuf. of the 3 latter products is not described.--From Chemical Abstracts.	1.00
54-58 PB L 52008	LIESER, TH. (Univ. Halle, Germany). α-Cellulose. In German. This is a review of eleven publications dealing with the determination of α-cellulose which is insoluble in 18% sodium hydroxide solution, the fractionation of cellulose, and its supermolecular structure.	1.00
59-71 PB L 52008	JAYME, G. (Institut für Zellstoff- und Papierchemie, Darmstadt). Production of furfural and celluloses low in pentosans from red beech wood. In German. After commenting on the decomposition by means of the sulfite and sulfate processes, a combined procedure is described: In a preliminary acid hydrolysis the pentosans are extracted from plant materials rich in pentosans. From the product thus obtained furfural is prepared, and from the residue of the preliminary hydrolysis celluloses low in pentosans are obtained by the alkali process.	1.00
72-80 PB L 52008	WENZL, H. (Forschungslab. Papier-Zellstofftech., Berlin-Charlottenburg). Production of pulp by the use of chlorine. In German. A descriptive article with 26 references. W. shows why industrial chlorination pulping (like the Pomilio process) has not been feasible in Germany.--From Chemical Abstracts.	1.00
81-88 PB L 52008	ERBRING, H. (Univ. Leipzig). Pulping of fibrous raw materials with nonaqueous solvents. In German. Pulping of various fibrous raw materials with glycerol and glycol is discussed briefly. E. also includes viscosity data on various types of cellulose in cuprammonium hydroxide, and the soly. of "glycol	1.00

lignin" in various EtOH-H_2O and EtOH-C_6H_6 mixts. The formation of stearyl and acetyl lignin is described; their viscosities (in C_6H_6) are shown graphically for various concns. Surface tensions of alkali lignin (in H_2O) at various concns., changes caused by alkali lignin in interfacial tensions between H_2O and paraffin oil and (or) C_6H_6, and the foam stability with time of alkali lignin solns. are shown graphically.--From Chemical Abstracts.

89-94 PB L 52008 — Discussion. In German. 1.00
The various problems arising during the discussion of the above papers and the critical remarks and the supplementary suggestions made, are summarized.

First meeting of the cooperative group for sulfur, Jan 24, 1941.

96-97 PB L 52008 — List of participants. In German. 1.00
The names of the representatives of various governmental agencies, industrial enterprises, universities, etc. who were present at the meeting are listed.

98 PB L 52008 — Introductory remarks. In German. 1.00
The motives which led to the establishment of the various cooperative groups are outlined.

99-118 PB L 52008 — WURSTER, C. (I. G. Farbenindustrie, A. G., Ludwigshafen, Germany). Sulfur supply of Germany. In German. 2.00
An economic discussion, with charts and tables, of the sources, supply, and consumption of S in Germany, particularly for 1939 and those expected in 1941.--From Chemical Abstracts.

119-127 PB L 52008 — BAUMGARTEN, PAUL (Universität Berlin). The chemistry of sulfur trioxide. In German. 1.00
The various reactions of sulfur trioxide and its addition products are discussed and illustrated with numerous structural and electronic formulas.

128-134 PB L 52008 — BÜRGIN (I. G. Farbenindustrie, A. G., Bitterfeld, Germany). Sodium sulfate electrolysis in the application of Glauber's salt as a spinning bath. In German. 1.00
On a lab. and semitech. scale, Na_2SO_4 soln. was electrolyzed in a 9000-amp. Hg cell with good current efficiency. Pure 50% NaOH soln. was obtained, and 20% H_2SO_4 contg. sulfate and 0.001% O_3. The cell cost was 150% above that for chloride electrolysis, and operation cost 30% higher. Further work is necessary on purification of electrolyte from heavy metals, earth alkalies, chloride, and viscose-decompn. products. The NaOH produced is used in the viscose process. The H_2O soln. from this together with acid forms further Na_2SO_4 for electrolysis.--From Chemical Abstracts.

135-148 PB L 52008 — BARWASSER, J. and KOESNER, G. (Lurgi-Gesellschaft Chemie Hüttenwesen m. b. H., Frankfurt am Main, Germany). Obtaining sulfur dioxide from industrial gases. In German. 1.00
Processes for the absorption of SO_2 from gases include those using as absorbers H_2O, basic $Al_2(SO_4)_3$ soln., $(NH_4)_2SO_3$ soln., and the "Sulfidin" process using a 1:1 or 1:2 mixt. of xylene and H_2O. These processes are discussed and compared and the Sulfidin process is found the most effective and economical. Absorption isotherms are given for SO_2 in H_2O, basic $Al_2(SO_4)_3$ soln., and xylene. --From Chemical Abstracts.

149-165 PB L 52008 — REYRINK, W. (Verein für die Bergbaulichen Interessen, Essen, Germany). Utilization of the sulfur in coal for combining with ammonia from coke plants. In German. 2.00
By present practice in Ruhr coke plants, NH_3 is washed from the gases with H_2O and recovered by heating the soln. in the presence of lime. The NH_3 is then converted to $(NH_4)_2SO_4$ by treatment with H_2SO_4, formed by oxidation of H_2S from the stock gases. Previous processes for removing S from gases are discussed, with flow diagrams. Agents for the removal of S include bog Fe ore, activated C, NH_4 polythionate soln., $Fe(OH)_3$, colloidal ferric ferrocyanide, NH_4 thioarsenate, potash, Na_3PO_4, diaminopropanol, and others. The product may be S, H_2S, H_2SO_4, $(NH_4)_2SO_4$, or a thiosulfate. There is also brief mention of the removal iron pyrites from coal.

166-170 PB L 52008 — Discussion. In German. 1.00
The various problems arising during the discussion of the above lectures and the critical remarks and the supplementary suggestions made are summarized.

171-175 PB L 52008 — HUTTIG, G. F. and BISCHOFF, V. (Deutsche Technische Hochschule, Prag, Germany). Decomposition of calcium sulfate by silica. In German. 1.00
When heated to 800°, $CaSO_4.2H_2O$ lost its H_2O. Further heating at 1000-1300° with an equimolar amt. of SiO_2 caused decompn. of the $CaSO_4$. The heating was done in a Pt vessel in an oven with temp. controlled to ±2.5°. Of the dried gases tried, SO_3 allowed the least decompn. When a stream was led through the oven at 2 or 4 l./hr. O_2, air, and N_2 allowed somewhat more decompn. A stream of steam moving at 4 l./hr. allowed 92% decompn. after 4 hrs.--From Chemical Abstracts.

PB L 52017. GERMANY, REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte Aug 1942. First meeting of the cooperative group for leather, May 29 and 30, 1942. Aug 1942. 187 p. Price: Microfilm-$4.00 - Photostat-$13.00
Abstracts of the papers follow. The papers will be available in photostat form. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
692 PB L 52017	Instructions. In German. This page contains 9 administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin"	$1.00

(Reich office for economic development).

693-694 PB L 52017 — List of participants. In German. The names of the representatives of various governmental agencies, industrial enterprises, universities, etc., who were present at the meeting are listed. 1.00

695 PB L 52017 — Opening remarks. In German. Recent problems of the cooperative group for leather are stated. 1.00

697-728 PB L 52017 — GRASSMANN, W. (Kaiser-Wilhelm-Institut für Lederforschung, Dresden, Germany). Raw hide as a scientific and economic problem. In German. 3.00
An address pointing out the importance of leather for the war effort and reviewing the structure of animal skin, the phys. properties of leather as related to structure, and the amino acid compn. and structure of collagen. 31 references.--From Chemical Abstracts.

729-743 PB L 52017 — HAUSAM, W. (Kaiser-Wilhelm-Institut für Lederforschung, Dresden, Germany). Current questions in the field of rawhide damages and rawhide conservation. In German. 1.00
Means of decreasing hide defects are considered. Washing the backs of cattle with a larvicide such as derrilavol or a sulfamide prepn. just before putting them on pasture in April should eliminate Hypoderma lineatum and prevent H. bovis from depositing eggs before the latter part of July. Hogs are scalded at 59.5 to 62° to remove hair. Damage to the skin starts at 62.5 to 63°. Careful temp. regulation is required but undamaged skins can be obtained. Curing salt should not contain more than 1% of Ca and Mg salts for calf skins or 2% for heavy hides. For denaturing salt, gas oil of good quality (free from asphalt, creosote or ppt. and with a neutralization no. of not over 1.0) was satisfactory. Stained leather resulted if brown coal-tar oil was used.--From Chemical Abstracts.

744-751 PB L 52017 — SCHUBERT, R. (Deutsche Versuchsanstalt und Fachschule für Lederindustrie, Freiberg, Germany). The possibility of substituting pig, dog, and fish skins for making leather and leather articles. In German. 1.00
Pigskin leather has good mech. properties and is suitable for practically all purposes, but it is porous, weakened by splitting, and must be tanned carefully as it is susceptible to protein-decompg. factors. Liming should be mild. Dog skins resemble sheep skins and make good chamois leather. They are of limited military value. Fish skins have no military value but can be used for civilian fancy leathers and so release other leather for military purposes. Shark skins are superior to other fish skins.--From Chemical Abstracts.

752-763 PB L 52017 — WOLF, K. (Institut für Gerbereichemie der Technischen Hochschule, Darmstadt, Germany). Production of dog skins and dog hair. In German. 1.00
The hair from dog skins that are unsuitable for furs is used for felt. Usually the hair is clipped by machines that cut the skin into narrow strips suitable only for glue stock. To felt, hair must have a square end and a smooth shaft near the base. Biol. methods (enzymes or bacteria) for removing hair cannot be used because they leave the hair bulbs on the hair. Chem. methods can be used if they produce hair bases comparable to those on clipped hair. If the action is too strong the hair will be swollen and may stick together; this results in holes and mats in the felt. Mech. methods for removing hair are most promising.--From Chemical Abstracts.

764-778 PB L 52017 — REICHEL, L. (Technische Hochschule, Dresden, Germany). Status of investigations on chemical constitution in the field of vegetable tannins. In German. 1.00
A bibliography of 49 items is surveyed which deal with the following two classes of tannins: (1) Hydrolizable tanning agents (depsides, glucosides, tannins, and ellagitannins), and (2) condensed tanning agents such as gambir and quebracho.

779-810 PB L 52017 — GRASSMANN, W. (Kaiser-Wilhelm-Institut für Lederforschung, Dresden, Germany). Technical and scientific problems and achievements in the field of native vegetable tannins. In German. 3.00
Methods in use for peeling and drying pine bark are described. Dry bark should not contain over 18% H_2O, and requires drying at relative humidities of 80% or less. The sulfite extn. process for pine is good unless sulfiting is carried too far; however only a few plants used the process until 1941. The "phlobaphene no.," Q, (C. A. 36, 1517[8]) or ratio of total tannin (sulfite extractable) to H_2O-sol. tannin is a good measure of bark quality. For good bark Q varies from 1.2 to 1.5; for poor, spoiled bark Q is 1.8 or more. Moist bark stored under unfavorable conditions does not lose tannin, but the catechin tannins of relatively low mol. wt. change first to condensation products of high mol. wt. and finally into insol. phlobaphenes. Only in badly spoiled bark has tannin been destroyed. Ross contains almost as much total tannin as inner bark, but less sol. tannin because of this change of sol. tannin to phlobaphene. The loss of sol. tannin is not due to leaching by rain or damage by mold. Phlobaphene content of bark increases with age; for example, in oaks of increasing age up to 180 yrs. total tannin in the bark remained const. but sol. tannin decreased from 10.2 to 6.8% and Q increased from 1.15 to 1.71. Tannin formation apparently is not in the bark but in the leaves or crown. After ringing the tree to stop flow of sap more tannin was found above the ring than below. Tannin is moved to the trunk in the fall and some may return to the crown in the spring. The production of phlobaphene is both an enzyme and at least partially an oxidation reaction. It is accelerated by oxygen but stopped by steaming, rapid drying of the bark or by enzyme poisons. Steamed bark can be held under unfavorable conditions for a considerable time; the tanning has a bright color, penetrates rapidly and is more easily extd. with H_2O than tannin of normal bark. Tannin production can be increased by (1) steaming the fresh bark, (2) extg. with sulfite, and (3) heating the dry bark to a high temp. by the Sagoschen method (C. A. 35, 6829[1])

to change low-mol.-wt. precursors of tannin to tannin (applicable only to young bark). Production of oak bark can be increased by steam peeling of trees cut out of peeling season and by peeling standing trees that are to be cut the following winter. Profits can be increased by growing sumac between the oaks. The tannin content of 7000 Rhus typhina plants growing in 15 locations ranged from 18 to 48% with an av. of 35%.--From Chemical Abstracts.

811-818
PB L 52017

HUBER, B. (Technische Hochschule, Dresden, Germany). The physiological basis for the removal of barks. In German. 1.00

Seasonal differences in the stripping of barks from trees were studied by means of the microscope and statistical analysis of systematically conducted stripping experiments. A second part of the paper deals with several problems encountered in practice.

819-833
PB L 52017

MAUTHE, G. (I. G. Farbenindustrie A. G., Leverkusen). Chemical, technical and economical production of synthetic tannins and their significance for the tannin supply. In German. 1.00

The structure and uses of some of the syntans are reviewed. As compared to vegetable tannins, syntans are cheaper to transport, and are stable to light, enzymes and acids. They will find uses in peace time. A tanning material was made from lignosulfonic acid by removing sulfo groups, degrading the mol., partially freeing phenolic OH groups, then sulfonating enough to render the product sol.--From Chemical Abstracts.

834-842
PB L 52017

KUNTZEL, A. (Technische Hochschule, Darmstadt, Germany). Phenolnovolaks as synthetic tannins. In German. 1.00

A tanning theory is best developed from syntans, since the basic principle of tanning action is the same with natural and synthetic tannins. The novolaks (C. A. 35, 3476[8]) are insol. in H_2O but tan (in the second step) when a 20% soln. in alc. or acetone is used to sat. the skin, then the skin is soaked in H_2O. By this method the tanning action of many H_2O-insol. can be studied. Lignin from pine did not tan and therefore has no depsophore groups. An affinity for hide substance, which may result in tannage, requires, in addn. to the constitution and size of the tannin mol., the presence of several groups which are polarized by nature in the amphoteric sense (depsides, sulfodepsides, sulfonic acid amides) or have such a polarity in the C_6 ring of an aromatic nucleus induced by substitution groups. This theory agrees with the facts insofar as the depsophore groups of a tannin do not require a definite group, but rather a type which is widely distributed and which can be realized in various ways.--From Chemical Abstracts.

843-851
PB L 52017

HERFELD, H. (Deutsche Versuchsanstalt und Fachschule für Lederindustrie, Freiberg, Germany). Possibility of exchanges in the tannin field. In German. 1.00

A discussion of the possibility of increasing the vegetable tannin supply by increasing the harvest of domestic materials, especially oak and pine; starting or expanding plantings of willow, chestnut, and badan; using syntans and sulfite cellulose; and conservation of chrome and fish oil. 9 references.--From Chemical Abstracts.

852-858
PB L 52017

Discussion. In German. 1.00

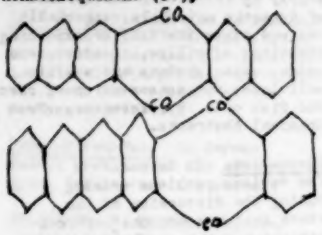
The various problems arising during the discussion of the above lectures and the critical remarks and the supplementary suggestions made are summarized.

859-878
PB L 52017

CLAR, E. Aromatic hydrocarbons and their derivatives. XXXVI. Condensation of partially hydrogenated aromatic compounds with maleic anhydride for the preparation of scaps and new methods for the synthesis of higher acenes and peri-condensed hydrocarbons. In German. 2.00

Fluorene (33.2 g.) and 20 g. maleic anhydride (I), gently heated 40 hrs. at 210°, give 15 g. 9-fluorenylsuccinic anhydride, b_1 300°, m. 167-70° (purified by pptn. from dil. AcOH with AcOH and crystn. from Ac_2O); 0.5 g. and 1 g. Na_2CO_3 in 250 cc. H_2O give 650 cc. foam. Acenaphthene (31 g.) and 20 g.(I), heated 30 hrs. at 210-30°, give 12 g. 1-acenaphthenylsuccinic anhydride, a glass which sublimed in vacuo in a CO_2 stream at about 200°; 0.5 g. and 1 g. Na_2CO_3 in 250 cc. H_2O give 400 cc. foam. The condensation product of (I) and 1,2,3,4-tetrahydronaphthalene could not be cryst.; 0.5 g. gives 530 cc. foam; the mono-Na salt in a concn. of 2 g./l. gives more than 1200 cc. foam. 1,2,3,4-Tetrahydronaphthalene (40 g.) and 40 g. $C_6H_4(CO)_2O$ in 120 cc. $C_2H_2Cl_4$, treated without cooling with 80 g. $AlCl_3$ and, after 0.5 hr., decompd. with ice and dil. HCl, the residue in 2l. H_2O contg. 80 g. NaOH boiled 5 hrs. with 80 g. Zn dust, and crystd. from AcOH, give o-(5,6,7,8-tetrahydro-2-naphthylmethyl)benzoic acid (II), m. 145-7°; 1 g. and 2 g. Na_2CO_3 in 250 cc. H_2O give 550 cc. foam. The crude (II), 50 g. $ZnCl_2$, and 10 g. NaCl give 30 g. 5,12-dihydrotetracene; 4 g. with 7 g. chloranil in 150 cc. boiling AcOH gives 2.5 g. tetracene. $C_6H_4(CO)_2O$ (150 g.) and 300 g. $AlCl_3$ in 500 cc. o-$C_6H_4Me_2$, heated 2 hrs. at 110°, the excess o-$C_6H_4Me_2$ removed with steam, the residue in 1500 cc. H_2O contg. 50 g. NaOH oxidized with 680 g. $KMnO_4$ (added in 50-g. portions and heating with steam), and the acid heated at 240°, give 206g 3-(o-carboxybenzoyl) phthalic anhydride (III), m. 185-6°. (III) (30 g.), 20 g. 1,2,3,4-tetrahydronaphthalene, and 300 cc. CCl_4, treated at 70° with 50 g. $AlCl_3$ and heated 2 hrs. at 90°, give the oily p-(o-carboxybenzoyl)-o-(5,6,7,8-tetrahydro-2-naphthoyl)benzoic acid; the acid and 40 g. NaOH in 1 l. H_2O, treated with 50 g. Zn dust and some $CuSO_4$ (7 hrs.), give 30 g. 2-(5,6,7,8-tetrahydro-2-naphthylmethyl)-4-(o-carboxybenzyl)benzoic acid; 30 g. acid, 50 g. $ZnCl_2$, 10 g. NaCl, and 10 g. Zn, heated at 340°, give 6,15- or 5,16-dihydrohexacene, m. 357-8°;

oxidation with SeO_2 in $PhNO_2$ gives hexacenequinone (IV),



(IV)

orange-yellow, m. 295-310°; it forms a violet-blue hydrosulfite bath. Pyromellitic anhydride (66 g.) and 100 g. 1,2,3,4-tetrahydronaphthalene in 150 cc. $C_2H_4Cl_4$, treated with 100 g. $AlCl_3$ and stirred 4 hrs. at 70-80°, the residue in aq. Na_2CO_3 heated 6 hrs. with 100 g. NaOH, 100 g. Zn dust, and a little $CuSO_4$, and a further 3 hrs. after addn. of 40 g. Zn dust, and the filtrate acidified with concd. HCl, give 70 g. 4,6-bis(5,6,7,8-tetrahydro-2-naphthylmethyl)-isophthalic acid (V), not entirely melted at 215° (it probably is mixed with some of the terephthalic acid). (V) (30 g.), 50 g. $ZnCl_2$, and 10 g. NaCl, heated at 340°, the melt extd. with dil. HCl, and the residue sublimed at 1 mm. in a CO_2 stream, give 6,17-dihydroheptacene (VI), orange-brown; recrystn. from pseudocumene appears to give 7,16-dihydroheptacene, pale ocher-yellow, m. 310-60°; if the transformation actually occurs, the reverse change takes place on melting. (VI) and 10 parts Cu bronze, heated at 1 mm. and 200-330° in a CO_2 stream, give heptacene (VII), grass-green in thin layers, black in thick layers, decomp. without melting; SeO_2 in boiling $PhNO_2$ gives 7,16-heptacenequinone, brown, sublimes at 1 mm. and 330° in a CO_2 stream, carbonizes without melting. 1,2,3,4-Tetrahydrophenanthrene (36 g.) and 30 g. (I), heated 24 hrs. at 210-30°, give 45 g. of a light brown resin, 0.5 g. of which yields 510 cc. foam. Anthracene (16 g.) and 15 g. N_2CHCO_2Et, heated 2 hrs. at 120-30° give 2 g. of the compd., $C_{16}H_{12}O_2$, the structure of which was not established, although the absorption spectrum indicated a phenanthrene deriv.; 0.5 g. gives 340 cc. foam. 9,10-Dihydroanthracene and I at 200° give 9,10-endo-(2,5-dioxotetrahydro-3,4-furylene)anthracene, m. 258-61°. 1,2,3,4,5,6,7,8-Octahydroanthracene (VIII) and (I), heated 24 hrs. at 220-40°, give the bis-condensation product, $C_{22}H_{22}O_6$; 0.5 g. gives 510 cc. foam. VIII (19 g.) and 15 g. $C_6H_4(CO)_2O$ in 100 cc. $C_2H_2Cl_4$ with 30 g. $AlCl_3$ give 34 g. o-(1,2,3,4,5,6,7,8-octahydro-9-anthroyl)benzoic acid, pale yellow, m. 196-8°; 0.5 g. gives 420 cc. slightly stable foam. The 9-sulfonic acid of VIII gives no foam in acid or alk. soln. VIII (19 g.) and 9 g. AcCl with 20 g. $AlCl_3$ in 200 cc. CS_2 give a quant. yield of the 9-Ac deriv., m. 74°. A mixt. of hydropyrenes (from pyrene and Na in boiling AmOH) and (I), heated 15 hrs. at 190-230°, give a brown resin which forms a very large foam vol. in dil. acid. 1,6-Dibenzoyl-hexahydropyrene, heated with Cu powder, gives 2,3,8,9-dibenzanthrene, blue, m. 382-90° (decompn.); the xylene soln. shows a strong red fluorescence.--From Chemical Abstracts.

PB L 52001. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Subject index for the chemical reports of the above agency. Apr 1945. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00

This index indicates where to find compounds and processes presented in the following publications: (1) Cooperative group for synthetic resin acids (PB 52002); (2) cooperative group for separation of hydrocarbons (PB 52003); (3) cooperative group for aliphatic and cycloaliphatic hydrocarbons (PB 52004); (4) cooperative group for the utilization of tar (PB 52005); (5) cooperative group for textile fibers (PB 52006); (6) cooperative group for methods of organic chemistry (PB 52007); (7) 1941 Chemische Berichte: Nov. 1941 (PB 52008) and Dec. 1941 (PB 52009); (8) 1942 Chemische Berichte: Jan. 1942 (PB 52010), Feb. 1942 (PB 52011), March 1942 (PB 52012), April 1942 (PB 52013), May 1942 (PB 52014), June 1942 (PB 52015), July 1942 (PB 52016), Aug. 1942 (PB 52017), Sept. 1942 (PB 52018), Oct. 1942 (PB 52019), Nov. 1942 (PB 52020), Dec. 1942 (PB 52021); (9) 1943 Chemische Berichte: Jan. 1943 (PB 52022). In German.

* PB L 79606. LEAPER, P. J. and DIRENGA, C. G. The lower vinyl ethers and their use for acetaldehyde manufacture. (FIAT Final Rept 1080). May 1947. 26 p. Price: Mimeo-$0.75

This report covers the manufacture of lower vinyl ethers by the reaction of acetylene with the lower boiling aliphatic alcohols under pressure, in the presence of a catalyst consisting of the potassium alcoholate of the respective alcohols. The method of operation and details of equipment are representative of those used at the I. G. Farbenindustrie Ludwigshafen. A brief description is also given of a projected pilot plant for the hydrolyses of vinyl methyl ether to acetaldehyde and methyl alcohol. It is understood that a pilot plant along these lines was constructed and operated at I. G. Farbenindustrie Ludwigshafen, but was destroyed by bombing early in the war. The vinyl ethers are prepared according to the following type reaction:

$$R{\cdot}OH + CH \equiv CH \rightarrow R{\cdot}O - CH = CH_2 + 30.7 \text{ kilocal/gram mol.}$$

It is believed that enough detailed information has been assembled in this report to permit the construction of an experimental unit for manufacturing lower boiling vinyl ethers.

* PB L 81849. STUMPF, W. Pressure hydrogenation of sulfite liquor. (FIAT Rept 1136). n. d. 13 p. Price: Mimeo-$0.50

This paper describes how the pressure hydrogenation of sulfite waste liquor in an aqueous alkaline medium is catalyzed at 350° C. and at high hydrogen pressure, under the effect of the autoclave wall, without the addition of catalysts. While silver and low alloy steels have poor catalytic properties, nickel, chromium and nickel-steel and chromium-steel alloys are suitable catalysts. Chromium-steels with more than 11 percent chromium content have good catalytic qualities. Satisfactory hydrogenation with layer separation and clarity of the liquids is obtained only with a NaOH-lignin ratio of 4 : 5 and more. The final product always consists of both neutral substances, phenols and acids. Low concentrations result in good yields of neutral substances, high concentrations in a low alloyed autoclave yield acids as chief products. Apart from the hydrogenating effect of the hydrogen medium, one-third of the hydrogen requirements is obtained from incidental reactions, the most important of which is formation of acids and alcohol through the aqueous alkali. In German.

* PB L 79599. TAUSZ, J. F. and TAUSZ, M. Protective coating of mirror surfaces with an oxide of silicon. (FIAT Final Rept 1103). May 1947. 11 p. Price: Mimeo-$0.50

Miscellaneous Chemicals (contd)

The coating of mirror surfaces with an oxide of silicon is described. The process is carried out in high vacuum, using a heating element to volatilize the oxide. The oxide deposits on the mirror surface to form a hard coating to protect against abrasion. The oxide of silicon is of doubtful composition but is a lower valence compound or mixture than the dioxide. Its preparation by sublimating a mixture of silicon and silicon dioxide is given. Also a description of a method for testing the scratch resistance of the coated mirrors is presented. Three sketches of apparatus are included.

U. S. RUBBER RESERVE MICROFILM REEL NO. 5841-1. This reel deals with a number of chemicals which may be of interest in various fields. These may be found in the individual reports contained in this reel (PB L 35000 - PB L 35167) which appear in this issue under the heading, "Rubber and Rubber Products."

•PB L 81832. VIDITZ-WARD, ANTON. Bleaching. (FIAT Final Rept 156). Feb 1946. 35 p. Price: Mimeo-$1.00

The report begins with an introduction which briefly outlines the textile finishing practice of synthetic fibers and continues with several methods of preparing the fibers for the bleaching process i.e. desizing, kier boiling, welter continuous alkaline treatment, and washing. The various bleaching methods are: chlorine, hydrogen peroxide, combined chlorine-peroxide, I.G. combined, the Ce-Es, osmotic, and Mohr processes. Diagrams and tables are given. Attached to the report are two translations, the first, contributions pertaining to Mohr bleaching, the second, bleaching lyes 25° Baumé.

ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

Miscellaneous

PB L 30897. CARPENTER, H. L. C-10 power plants. (AAF Materiel Command Memo Rept ENG-54-656-863) Sep 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30914. CHASMAN, B. Tests of low travel limit switches. (AAF Materiel Command Memo Rept ENG-54-656-953B) May 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 31914. CRAWFORD, J. W. and LOVE, T. Karl Vögler, formerly engineer in charge of construction at Troester, Hannover: Troester 4-bowl calender for Hdls. (BIOS Evaluation Rept 374) Feb 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30877. DAVIS, R. K. Obstacle light mast. Lights Incorporated and Fritz Ziebarth, Co-Adventurers. (AAF Materiel Command Memo Rept ENG-M-54-656-628) Dec 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30892. DAVIS, RODGER E. Electronic voltage and frequency control, model ATC 1431 for the Holtzer-Cabot MG 151F inverter. (AAF Materiel Command Memo Rept ENG-54-656-819) Aug 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30893. DAVIS, RODGER E. Voltage control type VA-1.5, designed by the P. R. Malory Company. (AAF Materiel Command Memo Rept ENG-54-656-827) Aug 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30929. DIRCKSEN, A. D. Time-delay relay for bomb release light. (AAF Materiel Command Memo Rept EXP-M-54-656-596) Nov 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30915. DUGGER, EDWARD. Low travel limit switches. (AAF ASTC Eng Div Memo Rept TSELA-4C-656-985C) Sep 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30916. DUGGER, EDWARD. Low travel limit switches. (AAF Materiel Command Memo Rept ENG-54-656-981 D(1)) Aug 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30898. DUGGER, EDWARD. Storage battery cases. (AAF Materiel Command Memo Rept ENG-54-656-873) Sep 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30890. EHRICH, J. H. AN electrical connectors. (AAF Materiel Command Memo Rept ENG-54-656-811) Aug 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30912. EHRICH, J. H. Qualification test on AN connectors; Aero Electric Corporation. (AAF ASTC Eng Div Memo Rept TSELA-4C-656-949AE) Oct 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30913. EHRICH, J. H. Qualification test on AN connectors; Electrical Connectors, Limited. (AAF ASTC Eng Div Memo Rept TSEPL-3-656-949 AT) Dec 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30926. EHRICH, J. H. Qualification test on AN connectors; Harwood Company. (AAF Materiel Command Memo Rept ENG-54-656-949H) Feb 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30924. EHRICH, JEROME H. Qualification test on AN connectors; Northam Warren Corporation. (AAF Materiel Command Memo Rept ENG-54-656-949A) Jan 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30927. EHRICH, JEROME H. Qualification test on AN connectors; Standard Motor Products Inc. (AAF Materiel Command Memo Rept ENG-54-656-949C) Jan 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30878. FRIEDRICH, E. J. Retractable landing lamp assembly, type R-3. (AAF Materiel Command Memo Rept EXP-M-54-656-617) Dec 1942. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30871. FRIEDRICH, E. J. Tests of 12 V EP 12, Blue fluorescent lamps. (AAF Materiel Command Memo Rept EXP-M-54-656-570) Oct 1942. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30883 - PB L 30884. GIESMAN, E. R. Aircraft storage batteries. (AAF Materiel Command Memo Rept EXP-M-54-656-594; EXP-M-54-656-594A) Nov 1942. 2 p., each. Price of each: Microfilm-$1.00 - Photostat-$1.00

PB L 30882. GIESMAN, E. R. Multi-engine ignition switch. (AAF Materiel Command Memo Rept EXP-M-54-656-599) Nov 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30876. GIESMAN, E. R. Remote control circuit breakers. (AAF Materiel Command Memo Rept EXP-M-54-656-545A) Aug 1942. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30880. GREEN, W. M. Generator, high altitude brushes. (AAF Materiel Command Memo Rept ENG-54-656-613K) Sep 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30925. GREENLEE, P. H. Additional laboratory tests of Searle "Self Test" indicator light. (AAF Materiel Command Memo Rept ENG-54-656-947A) Mar 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30923. GREENLEE, P. H. Laboratory tests of Searle "Self Test" indicator light. (AAF Materiel Command Memo Rept ENG-54-656-947) Jan 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30922. GREENLEE, P. H. Laboratory tests on Littlefuse, Incorporated, "Signalettes." (AAF Materiel Command Memo Rept ENG-54-656-946) Dec 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30881. HOLLIDAY, T. B. Electrical circuit protection. (AAF Materiel Command Memo Rept ENG-54-656-608Z) Sep 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30868. HOLLIDAY, T. B. Service performance of electrical equipment. (AAF Materiel Command Memo Rept EXP-M-54-656-579B) Dec 1942. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 31916. MARKWICK, A. H. D. Hoch und Tiefbau Inhaber Gebr. Schmersal: Electrical drainage of soil. (BIOS Evaluation Rept 381) Feb 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 74022. MINISTERIAL DOCUMENTS BRANCH, BERLIN. The power industry in Thuringia. (FIAT Microfilm Reel B 226, Frames 9384-9883). 1938-1944. 500 f. Price: Microfilm-$5.75 - Enlargement Print-$50.00 This reel prepared by FIAT investigators in Germany consists of correspondence and reports dealing with the reorganization of the power industry in Thuringia, the placing of gas generators at the disposal of various industrial plants in Thuringia and an evaluation of a weir power station given by professors Wittmann of Karlsruhe and Schoklitsch of Graz. In German.

PB L 30928. MORAN, D. L. and EHRICH, J. H. Qualification test on AN connectors: Cannon Electric Development Company. (AAF Materiel Command Memo Rept ENG-54-656-949D) Feb 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30908. PODHORZER, EMIL. Reverse current relays, General Electric part Nos. 3GTR72A1, 3GTR72C1 and 3GTR72C1A. (AAF Materiel Command Memo Rept ENG-54-656-1131) Aug 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30888. PODHORZER, EMIL. Switch, generator control relay, AN3025-1, Hartman Electrical Manufacturing Company P/N A-700. (AAF ASTC Eng Div Memo Rept TSEPL-3-656-906P) Oct 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30887. PODHORZER, EMIL. Switch, generator control relay (differential), Westinghouse Electric & Manufacturing Co., part No. 7-A-5930-0R1. (AAF ASTC Eng Div Memo Rept TSEPL-3-656-906N) Jan 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30886. PODHORZER, EMIL. Switch, generator control relay, General Electric part No. 3GTR72B4. (AAF Materiel Command Memo Rept ENG-54-656-906G) Sep 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30921. QUAYLE, VINCENT H. Radio noise test and recommendations on a General Electric generator. (AAF Materiel Command Memo Rept ENG-54-656-1118) Jul 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30889 and PB L 30891. SEDAM, HARRY W. Battery cases. (AAF Materiel Command Memo Rept ENG-54-656-809; ENG-54-656-813) Aug 1943. PB L 30889, 3 p.; PB L 30891, 4 p. Price for each: Microfilm-$1.00 - Photostat-$1.00

PB L 30896. TOLENTINO, J. G. Lamp assembly, cockpit, type R-7 (aircraft-extension) specification 94-72228-A. (AAF Materiel Command Memo Rept ENG-54-656-854) Aug 1943. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 30885. TOLENTINO, J. G. Lamp assembly, extension (vapor-tight), specification No. 50284-A. (AAF Materiel Command Memo Rept ENG-54-656-879) Sep 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

FUELS AND LUBRICANTS

PB L 60383. BECK, GEORG and KÜNZELMANN, RUDOLF. Corrosion by fuels. (Deutsche Kraftfahrtforschung im auftrag des Reichs-Verkehrsministeriums, Heft 21). 1939. 36 p. Price: Microfilm-$1.00 - Photostat-$3.00
Within a series of "Deutsche Kraftfahrtforschung" reports, the "Institut für Kraftfahrwesen an der Technischen Hochschule Dresden" initiated this study. German raw materials facilitated the production of anti-corrosion "baking enamels." The purer the fuel the less the intensity of corrosion. The mechanical strength of baking enamels was of minor capacity. While treating enamels, it was necessary to observe a sufficient and regular roughness of the sheet metal surface before dipping. Tests showed that air-drying enamels proved to be corrosion resistant against Diesel oils. The chemical composition influences the corrosive effect. The mechanical strength was less than expected. Light fuel mixtures attacked heavy metals. Surface tempering of iron did not protect against corrosion. Not all light metal alloys are suitable for light fuels. Investigated surface tempering methods of light metals were resistant against light fuel mixtures. The composition of fuels such as the refining process influences corrosion. While heavy metals demonstrated intense corrosion by Diesel oil, tin reacted with more success. Even surface tempered iron could not be protected. On the other hand light metal alloys are resistant against Diesel oils. Of the investigated surface tempering processes only one method was really successful. Various Diesel oils show different corrosion effects. Coal and lignite tar oils reacted highly corrosive. Refining of Diesel oil influenced the intensity. Graphs, tables of data and photographs are included. In German.

*PB L 81610. CALDWELL, J. M. and SMITH, G. H. Württemberg shale fields. (BIOS Final Rept 1221, Item 30). Oct 1946. 25 p. Price: Microfilm-$1.50 - Photostat-$3.00
During the latter years of the war, Germany, in order to augment her oil supplies, decided to exploit the rather poor oil yielding shales of Württemberg. Several methods of recovering oil from shale were put into practice. The report describes the methods of distillation of shale at Situ, Schorzingen, shale retorts at Dotternhausen, cement plant at Dotternhausen, and Meiler Fields, near Dotternhausen. Sketches, maps and charts are included.

PB L 28564. DANSER, JAMES F. Japanese flame thrower fuel oil. (U. S. Enemy Equipment Intelligence Service Chem War fare Sect. India-Burma Theater Technical Rept 7) May 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

*PB L 80330. JOHNSON, C. A. and others. Gasification of coal. (FIAT Final Rept 938). Apr 1947. 141 p. Price: Mimeo-$1.50
Of the various processes proposed by the Germans for converting coal into synthesis gas by continuous gasification with oxygen, two of the more recently developed processes are of interest for possibly providing gas for Fischer-Tropsch liquid fuel plants. They are the Surgi process, which operates at a high pressure (20 atmospheres), and the Thyssen-Galocsy process which operates at a relatively high temperature. A number of drawings of the equipment are presented and discussed, and some discussion of the inherent advantages of the processes is offered. Because of the successful adaptation for furnishing gas to some of the large Fischer-Tropsch units, the Koppers combination low temperature carbonization and gasification unit was investigated. Some drawings are reproduced in this report. Also a summary of the status of the Fischer-Tropsch process as offered by one of the authorities in the field is included.

PB L 80744. SUPREME COMMANDER FOR THE ALLIED POWERS. NATURAL RESOURCES SECTION. Low-temperature carbonization of coal in Japan. (Rept 74). Oct 1947. 95 p. Price: Mimeo-$3.50
This process served as an important source of liquid fuels during World War II. Six plants operating in Japan proper produced 203,069 Kiloliters of liquid fuel from 1940 to 1945 and four additional plants in Sakhalin and Korea produced 211,943 Kiloliters making a total of 415,012 Kl. Coalite produced in these plants was used for domestic fuel, for gasification, as a fuel for portable gas-producers on automobile vehicles, and to replace imported low-volatile bituminous coal in the manufacture of metallurgical coke. This report describes in detail the various types of low-temperature carbonization processes in Japan and the machinery used in the various plants. The text is supplemented by illustrations and tables.

LEATHER AND LEATHER PRODUCTS

PB L 52017. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische Berichte Aug 1942. First meeting of the cooperative group for leather, May 29 and 30, 1942. Aug 1942. 187 p. Price: Microfilm-$4.00 - Photostat-$13.00
For abstracts of this paper, see "Leather and Leather Products" of this issue of the Bibliography.

*PB L 78670. HASS, ANTHONY. "Immergan A" for prepation of chamois skin. (FIAT Tech Bulletin T-31). Apr 1947. 6 p. Price: Mimeo-$0.25
Immergan A is chemically identical with Mersol D and is composed of approximately 60% mepasin monosulfochloride, 20% mepasin dipolysulfochloride and 20% hydrocarbons from kogasin. It is prepared by treating kogasin with chlorine to give mepasin chloride, which is then hydrogenated and treated with chlorine and sulfur dioxide to give mepasin sulfochloride. Chamois skin prepared with Immergan A is white in color and absolutely stable to light. In appearance and softness, it is equivalent to unbleached chamois skin prepared by the traditional fish oil process. Immergan A is protected by German patent No. 733,991 of March 11, 1943. A detailed description (in German) of its application is given.

PB L 7750-S-7. ZELLSTOFFFABRIK WALDHOF, MANNHEIM. Guide for the use of "Hansa extracts" in the leather industry. (Supplement to PB 7750). (FIAT Final Rept 450, supp.). 1911-1939. 113 p. Price: Microfilm-$3.00 - Photostat-$8.00
This booklet is a supplement to the report "Wood and cellulose research in Germany" (Bibliography, vol. 1, p. 553, PB 7750). "Hansa extracts" are tanning agents obtained from lignin by decomposition with bisulfites. The various brands of the firm, their composition, properties, and uses are described in detail. A 53-page supplement contains numerous tables with chemical and physical data on the various materials used in the leather industry. In German.

METALS AND METAL PRODUCTS

PB L 30911. BRODERICK, S. J. Ford Motor Company magnesium alloy casting No. 37870, magnesium ingot and distilled crystallized magnesium. (AAF Materiel Command Memo Rept EXP-M-56-3890) Aug 1941. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 82144. KAISER WILHELM INSTITUT FÜR EISENFORSCHUNG, DÜSSELDORF, GERMANY. Publications in metallurgy. (FIAT Microfilm Reel X 84, Frames 3853-4349) 1940-1942. 497 f. Price: Microfilm-$7.00 - Enlargement print-$51.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
3853-3880 PB L 82144	Experiments with rivet joints. By Otto Graf. 1941. In German. Published by Springer, Berlin.	$5.00
3881-3962 PB L 82144	Metallographic atlas. A collection of photographs for technical metallography. By Heinrich Hanemann and Angelica Schrader. Vol. III: Aluminum. 1941. In German. Published by Bornträger, Berlin-Zehlendorf.	10.00
3963-4283 PB L 82144	The corrosion protection of metallic materials and their alloys. By Otto Krohnke and Georg Masing. 1940. In German. Published by Hirzel, Leipzig.	34.00
4284-4303 PB L 82144	Rust and corrosion passivity of iron. By W. J. Müller. 1941. In German. Published by "Chemie," Berlin.	3.00
4304-4349 PB L 82144	Destruction of material by cavitation effect. Examination of vibrating apparatus. By Hans Nowotny. 1942. In German. Published by VDI, Berlin.	6.00

PB L 73523. GERMANY. Materials. 1933-1940. 816 f. Price: Microfilm-$6.00 - Enlargement print-$82.00

KLÖCKNER - HUMBOLDT - DEUTZ A.G., COLOGNE. Experiments for the magnetic dressing of ferrous (FIAT Microfilm Reel H 112, Frames 682-1498)

This reel was prepared by FIAT investigators in Germany. 187 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
682 PB L 73523	Silica and feldspar specimen from Japan. 1933. In German.	$1.50
683-685 PB L 73523	Test with monazite sand. 1933. In German.	1.50
686-692 PB L 73523	Test with graphite ore. 1933. In German.	1.50
693-694 PB L 73523	Report on magnetic grader-control tests with monazite sand. 1933. In German.	1.50
695-697 PB L 73523	Test with monazite sand containing Sn. 1933. In German.	1.50
698 PB L 73523	Cancelled.	
698 A PB L 73523	Test with tungsten-tin ore. 1933. In German.	1.50
699 PB L 73523	Cancelled.	
700-701 PB L 73523	Test with a specimen of tin concentrate. 1933. In German.	1.50
702-703 PB L 73523	Investigation of tin ore. 1933. In French.	1.50
704-705 PB L 73523	Magnetic test. 1933. In German.	1.50
706-707 PB L 73523	Test with tin ore. 1933. In German.	1.50
708-711 PB L 73523	Test with iron ore. 1933. In German.	1.50
712-715 PB L 73523	Test with tin ore. 1933. In German.	1.50
716-717 PB L 73523	Test with feldspar. 1933. In German.	1.50
718-721 PB L 73523	Test with graphite. 1933. In German.	1.50
722-725 PB L 73523	Test with tin concentrate. 1933. In German.	1.50
726 PB L 73523	Test with glass sand. n.d. In German.	1.50
727 PB L 73523	Test with titanium ore. n.d. In German.	1.50
728-729 PB L 73523	Magnetic tests with tantalum waste from tin slag. 1933. In German.	1.50
730-733 PB L 73523	Tests with glass sand. 1934. In German.	1.50
734-736 PB L 73523	Magnetic dressing tests with tin concentrate. 1934. In German.	1.50
737-738 PB L 73523	Test analysis of products containing Ta. 1934. In German.	1.50
739-742 PB L 73523	Test with cassiterite. 1934. In German.	1.50
743 PB L 73523	Magnetic dressing tests with tin concentrate. 1934. In German.	1.50
744-745 PB L 73523	Tests with products containing Ta. 1934. In German.	1.50
746-754 PB L 73523	Dressing of tin products containing Ta. 1935. In German.	1.50
755-762 PB L 73523	Magnetic tests with roasted blende. 1934. In German.	1.50
763-765 PB L 73523	Separation tests with Zinc blende containing pyrites. 1934. In German.	1.50
766-767 PB L 73523	Magnetic separation test with tin concentrate. 1934. In German.	1.50
768 PB L 73523	Magnetic separation of tin ore concentrate. 1934. In German.	1.50
769-771 PB L 73523	Test with sand containing iron. 1934. In German.	1.50
772 PB L 73523	Investigation of manganese ore. 1934. In German.	1.50
773 PB L 73523	Tests for the removal of iron from quartz sand. 1934. In German.	1.50
774-775 PB L 73523	Tests with quartz sand and fluorspar. 1934. In German.	1.50
776 PB L 73523	Separation of quartz sand. 1934. In German.	1.50
777-782 PB L 73523	Tests with quartz and feldspar. 1934. In German.	1.50
783 PB L 73523	Tests on removing iron from quartz-sand. 1934. In German.	1.50
784 PB L 73523	Tests with iron oxide. 1934. In German.	1.50
785-788 PB L 73523	Test with feldspar. 1934. In German.	1.50
789 PB L 73523	Test with feldspar powder. 1934. In German.	1.50
790-791 PB L 73523	Separation of iron oxide. 1934. In German.	1.50

792-797 PB L 73523 — Tests with monazite sand from South America. 1934. In German. 1.50

798 PB L 73523 — Test with sinter magnesite. 1934. In German. 1.50

799-804 PB L 73523 — Tests with iron ore. 1934. In German. 1.50

805-807 PB L 73523 — Magnetic dressing of V2a grinding waste. 1935. In German. 1.50

808 PB L 73523 — Tungsten-tin-bismuth-ore waste. 1935. In German. 1.50

809 PB L 73523 — Dressing of Ta ore. 1935. In German. 1.50

810-813 PB L 73523 — Tests with iron ore from "Hämeler wald." 1935. In German. 1.50

814-816 PB L 73523 — Tests with rutile ore. 1935. In German. 1.50

817-828 PB L 73523 — Dressing tests with granite. 1935. In German. 1.50

829 PB L 73523 — Dressing of Ta ore. 1935. In German. 1.50

830 PB L 73523 — Magnetic dressing of feldspar. 1935. In German. 1.50

831-832 PB L 73523 — Test with cr ore. 1935. In German. 1.50

833-835 PB L 73523 — Test with magnetite-ilmenite quartz sand containing gold. 1935. In German. 1.50

836-838 PB L 73523 — Dressing of Sn - W ore. 1935. In German. 1.50

839-844 PB L 73523 — Tests with granite. 1935. In German. 1.50

845-846 PB L 73523 — Tests with soot. 1935. In German. 1.50

847-856 PB L 73523 — Tests with hematite ore. 1936. In German. 1.50

857 PB L 73523 — Tests with waste-dump. 1936. In German. 1.50

858-859 PB L 73523 — Tests with magnetite sand. 1936. In German. 1.50

860-864 PB L 73523 — Tests with waste-dump containing spar. 1936. In German. 1.50

865 PB L 73523 — Magnetic separation of roasted pyrites. 1936. In German. 1.50

866-868 PB L 73523 — Grinding of micaceous iron ore. 1936. In German. 1.50

869-872 PB L 73523 — Fe - W installation. n.d. In German. 1.50

873-874 PB L 73523 — Test with W - Sn ore. 1936. In German. 1.50

875-877 PB L 73523 — Dressing of diamond sand. 1936. In German. 1.50

878 PB L 73523 — Test with coke on magnetic graders. 1936. In German. 1.50

879-882 PB L 73523 — Test for the dressing of 20 tons of iron slag. 1936. In German. 1.50

883-885 PB L 73523 — Tests with Co - Ni oxide. 1936. In German. 1.50

886-891 PB L 73523 — Tests with "roast spar". 1936. In German. 1.50

892-895 PB L 73523 — Dressing of bog iron ore. 1936. In German. 1.50

896-899 PB L 73523 — Dressing of Ni slags. 1936. In German. 1.50

900-903 PB L 73523 — Tests with sand. 1936. In German. 1.50

904-908 PB L 73523 — Electro magnetic separator for tin ore. 1936. In German. 1.50

909-916 PB L 73523 — Tests with tin stone ore. 1936. In German. 1.50

917-929 PB L 73523 — Magnetic dressing of Cr ore products. 1936. In German. 1.50

930-933 PB L 73523 — Tests with Fe glance on magnetic graders. 1936. In German. 1.50

934-942 PB L 73523 — Tests with Ti ore. 1937. In German. 1.50

943 PB L 73523 — Test with quartz sand. 1936. In German. 1.50

944 PB L 73523 — Test with congo dyes. 1936. In German. 1.50

945-946 PB L 73523 — Magnetic separation with ilmenite sand. 1936. In German. 1.50

947-949 PB L 73523 — Tests with ilmenite sands. 1936. In German. 1.50

950-951 PB L 73523 — Test with blast furnace dust. 1936. In German. 1.50

952-954 PB L 73523 — Dressing of waste-dump. 1936. In German. 1.50

955-956 PB L 73523 — Tests with Fe ore. 1936. In German. 1.50

957-964 PB L 73523 — Dressing tests with bog iron ore. 1936. In German. 1.50

965-971 PB L 73523 — Tests with Snore from Malaya. 1936. In German. 1.50

972-974 PB L 73523 — Tests with zinc furnace waste. 1936. 1.50

975-977 PB L 73523 — Dressing of talcose slate. 1937. In German. 1.50

978-983 PB L 73523 — Tests with monazite. 1937. In German. 1.50

984 PB L 73523 — Investigation of Sn - W ore. 1937. In German. 1.50

985-989 PB L 73523 — Tests with brass chips. 1937. In German. 1.50

990-1010 PB L 73523 — Tests with micaceous iron ore. 1937. In German. 1.50

1011-1020 PB L 73523 — Tests with ilmenite - zircon sands. 1937. In German. 1.50

1021-1022 PB L 73523 — Tests for the magnetic dressing of stone powder. 1937. In German. 1.50

1023-1042 PB L 73523 — Tests with pozzuolana. 1937. In German. 1.50

1043-1048 PB L 73523 — Dressing tests with ilmenite sand. 1937. In German. 1.50

1049-1054 PB L 73523 — Tests with sinter magnesite. 1937. In German. 1.50

1055-1058 PB L 73523 — Tests with ilmenite sand, magnetite sand and garnet sand. 1937. In German. 1.50

1059-1064 PB L 73523 — Tests with Scheelite. 1937. In German. 1.50

1065-1068 PB L 73523 — Tests with grinding waste. 1937. In German. 1.50

1069 PB L 73523 — Tests with a specimen of magnetite-ilmenite sand. 1937. In German. 1.50

1070-1076 PB L 73523 — Test with ilmenite sand. 1937. In German. 1.50

1077-1086 PB L 73523 — Tests with ferruginous sand stone. In German. 1.50

1087 PB L 73523 — Test with grinding wastes. 1937. In German. 1.50

1088-1089 PB L 73523 — Dressing of W ore. 1937. In German. 1.50

1090 PB L 73523 — Tests with W ore. 1937. In German. 1.50

1091-1104 PB L 73523 — Tests with stone containing feldspar. 1937. In German. 1.50

1105-1119 PB L 73523 — Tests with various ilmenite sands. 1937. In German. 1.50

1120-1127 PB L 73523 — Tests with Fe - Ti ore. 1937. In German. 1.50

1128-1134 PB L 73523 — Ilmenite sand from the Canary Islands. 1938. In German. 1.50

1135-1137 PBL 73523 — Test with magnetite. 1937. In German. 1.50

1138-1140 PB L 73523 — Tests with sand from the ocean containing minerals. 1937. In German. 1.50

1141-1147 PB L 73523 — Tests with slag containing iron. 1937. In German. 1.50

1148-1150 PB L 73523 — Tests with lime waste. 1937. In German. 1.50

1151-1163 PB L 73523 — "Koppit" concentrate. 1937. In German. 1.50

1164-1166 PB L 73523 — Waste containing Cr_2 and Ni. 1937. In German. 1.50

1167-1171 PB L 73523 — Tests with corundum. 1937. In German. 1.50

1172-1174 PB L 73523 — Tests with Thomas slag. 1937. In German. 1.50

1175-1179 PB L 73523 — Test with ilmenite sand. 1937. In German. 1.50

1180-1184 PB L 73523 — Tests with W - tin ore. 1937. In German. 1.50

1185-1190 PB L 73523 — Tests with ferruginous sand stone. 1937. In German. 1.50

1191-1192 PB L 73523 — Tests with raw magnesite. 1937. In German. 1.50

1193-1196 PB L 73523 — Magnetic separation tests with synthetic Al oxide. 1937. In German. 1.50

1197-1198 PB L 73523 — Tests with Sn ore containing Ta on magnetic graders. 1937. In German. 1.50

1199 PB L 73523 — Magnetic separation test with carbide containing ferrosilicon. 1937. In German. 1.50

1200-1202 PB L 73523 — Magnetic dressing of cleaned W - products. 1937. In German. 1.50

1203-1207 PB L 73523 — Tests with grinding powder. 1937. In German. 1.50

1208-1212 PB L 73523 — Dressing of ilmenite rutile ore. 1938. In German. 1.50

1213-1219 PB L 73523 — Tests with hematite. 1938. In German. 1.50

1220-1227 PB L 73523 — Tests with the dust of red sludge. In German. 1.50

1228-1229 PB L 73523 — Tests with converter slags. 1938. In German. 1.50

1230-1231 PB L 73523 — Experiments with Ta ore. 1938. In German. 1.50

1232-1235 PB L 73523 — Dressing of Ta - Sn ore. 1938. In German. 1.50

1236 PB L 73523 — Dressing of talcose slate. 1938. In German. 1.50

1237-1238 PB L 73523 — Dressing of Rutile. 1938. In German. 1.50

1239-1241 PB L 73523 — Test with W - Sn ore. 1938. In German. 1.50

1242-1244 PB L 73523 — Tests with preliminary reduced "purple" ore. n.d. In German. 1.50

1242-1244 PB L 73523 — Tests with preliminary reduced "purple" ore on magnetic graders. 1938. In German. 1.50

1245-1249 PB L 73523 — Tests with magnetic ore, "Skeira". 1937. In German. 1.50

1250-1255 PB L 73523 — Test with Fe - ore "Skreia". 1938. In German. 1.50

1256-1259 PB L 73523 — Tests with alumina corundum. 1938. In German. 1.50

1260-1264 PB L 73523 — Tests with Fe - ore. 1938. In German. 1.50

1265-1271 PB L 73523 — Tests with slag containing V. 1938. In German. 1.50

1272 PB L 73523 — Magnetic separation test with Thomas slag. 1938. In German. 1.50

1273-1277 PB L 73523 — Tests with sinter magnetic. 1938. In German. 1.50

1278-1281 PB L 73523 — Tests with iron-fuel mixtures. 1938. In German. 1.50

1282-1289 PB L 73523 — Dressing of sinter magnesite. 1938. In German. 1.50

1290-1291 PB L 73523 — Dressing installation for magnesite sand. 1938. In German. 1.50

1292-1297 PB L 73523 — Magnetic separation tests with washing concentrates containing iron. 1938. In German. 1.50

1298-1299 PB L 73523 — Magnetic dressing tests with Ta-Cb ore. 1938. In German. 1.50

1300-1307 PB L 73523 — Magnetic dressing tests with grinding waste. 1938. In German. 1.50

1308-1313 PB L 73523 — Magnetic dressing tests with magnetic sand, ilmenite sand and garnet sand. 1938. In German. 1.50

1314-1318 PB L 73523 — Tests with slag containing V. 1938. In German. 1.50

1319-1320 PB L 73523 — Dressing of ore with low contents of sand. 1938. In German. 1.50

1331-1333 PB L 73523 — Tests with micaceous iron ore. 1938. In German. 1.50

1334-1338 PB L 73523 — Test with W - Sn ore. 1938. In German. 1.50

1339-1344 PB L 73523 — Tests with magnetic sand. 1938. In German. 1.50

1345-1346 PB L 73523 — Investigation of magnetic grader products containing precious metal. 1938. In German. 1.50

1347-1350 PB L 73523 — Test with river sand containing magnetite. 1938. In German. 1.50

1351-1352 PB L 73523 — Testing of river sand containing gold and magnetite. 1938. 1.50

1353-1356 PB L 73523 — Magnetic separation of feldspar. 1938. In German. 1.50

1357-1358 PB L 73523 — The removal of iron from hard rubber dust. 1938. In German. 1.50

1359-1360 PB L 73523 — Cleaning of light metal chips. 1938. In German. 1.50

1361-1372 PB L 73523 — Tests with magnetite. 1938. In German. 1.50

1373 PB L 73523 — Dressing of sand containing iron. 1938. In German. 1.50

1374-1376 PB L 73523 — Tests with iron powder. 1938. In German. 1.50

1377-1378 PB L 73523 — Dressing of sand from dunes in Southwest Africa. 1939. In German. 1.50

1379 PB L 73523 — Dressing tests with "Conpit" products. 1939. In German. 1.50

1380 PB L 73523 — Test with feldspar. n.d. In German. 1.50

1381-1387 PB L 73523 — Tests with iron sponge. 1939. In German. 1.50

1388 PB L 73523 — Cleaning of talcum. 1939. In German. 1.50

1389-1390 PB L 73523 — Tests concerned with the dressing of bauxite. 1939. In German. 1.50

1391-1404 PB L 73523 — Test washing concentrate containing ilmenite. 1939. In German. 1.50

1405-1409 PB L 73523 — Tests with iron ore. 1939. In German. 1.50

1410-1411 PB L 73523 — Dressing of W - ore. n.d. In German. 1.50

1412-1413 PB L 73523 — Test with W - ore. 1939. In German. 1.50

1414-1417 PB L 73523 — Tests with slag containing V. 1939. In German. 1.50

1418-1420 PB L 73523 — Tests with ilmenite sand. 1939. In German. 1.50

1421-1426 PB L 73523 — Tests for magnetic dressing of abrasives containing iron. 1939 In German. 1.50

1427 PB L 73523 — Magnetic separation of iron from steel battery scrap. 1939. In German. 1.50

1428-1432 PB L 73523 — Results from magnetic tests. 1940. In German. 1.50

1433-1437 PB L 73523 — Reports on magnetic separation tests with leucitic pozzuolana. 1940. In German. 1.50

1438-1452 PB L 73523 — Tests with spathic iron ore and heavy spar ores. 1940. In German. 1.50

1453-1465 PB L 73523 — Tests with slag containing iron. 1940. In German. 1.50

1466-1483 PB L 73523 — Tests for wet-mechanical and magnetic dressing of pozzuolana. 1940. In German. 1.50

1484-1489 PB L 73523 — Tests for dressing slags containing iron. 1940. In German. 1.50

1490-1491 PB L 73523 — Iron separation from kaolin chamotte. 1940. In German. 1.50

1492-1498 PB L 73523 — Tests for the magnetic separation of Thomas slag. 1940. In German. 1.50

PB L 30905. MEISELMAN, S. Test of Bundyweld tubing. (AAF Materiel Command Memo Rept EXP-M-51/Ad 1058, Addendum 5) Oct 1942. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00

METEOROLOGY AND CLIMATOLOGY

PB L 81842. LANGMUIR, IRVING and others. Meteorological research; first quarterly progress report, March 1-June 1, 1947. Jul 1947. 39 p. Price: Mimeo-$1.25

This report consists of cloud studies in connection with the artificial nucleation of clouds. Methods and instruments developed for producing precipitation are described. Silver iodide particles were used as nuclei for the transformation of super cooled water clouds to ice nuclei. This study is of value in the prevention of icing on aircraft.

PB L 82114. U. S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. Meteorological and climatological publications. (FIAT Microfilm Reel Y 33, Frames 9019-9717) 1923-1942. 697 f. Price: Microfilm-$7.00 - Enlargement print-$71.00

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
9019-9094 PB L 82114	Science. Volume 90. City climate. By P. Albert Kratzer. 1937. In German. Published by Friedrich Vieweg and Son, Braunschweig.	$9.00
9095-9177 PB L 82114	"Geographische Schriften." No. 7. Geomorphology of moist tropics. By Karl Sapper. 1935. In German. Published by B. G. Teubner, Leipzig and Berlin.	10.00
9178-9205 PB L 82114	The climate factors and survey on climate zones of the earth. By K. Knoch. Special print from Manual of science on soil, vol. 2. 1929. In German. Published by Julius Springer, Berlin.	4.00
9206-9257 PB L 82114	German Lufthansa 1926-1936. In German.	7.00

Pamphlet published by Carl Warnecke, Halle/Saale.

9258-9328 PB L 82114 — Instructions for visiting meteorological observation stations. 1936. In German. 9.00
Pamphlet edited by "Reichsamt für Wetterdienst, Berlin."

9329-9472 PB L 82114 — Electrical temperature measurements. By Georg Kleinath. 1923. In German. 16.00
Published by R. Oldenbourg, Munich and Berlin.

9473-9495 PB L 82114 — Temperature corrections of elastic barometer casings. By Rolf Machens. 1940. In German. 2.50
Doctor's thesis submitted to faculty for mathematics and natural science of Berlin University.

9496-9651 PB L 82114 — German science, work and task. 1939. In German. 17.00
Book published by S. Hirzel, Leipzig.

9652-9667 PB L 82114 — Description and instruction for use of normal travel barometers. 1942. In German. 3.00
Pamphlet edited by "Reichsamt für Wetterdienst, Berlin."

9668-9717 PB L 82114 — Guide for weather service training. No. 1. Observations made on aerodromes. By "Luftgaumeteorologie, Wiesbaden." 1939. In German. 6.00

PB L 82115. U. S. OCCUPATION FORCES IN GERMANY, WEATHER SERVICE, BAD KISSINGEN, GERMANY. Meteorological publications. (FIAT Microfilm Reel Y 21, Frames 841-1452) 1933-1942. 612 f. Price: Microfilm-$7.00 - Enlargement print-$63.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German and Dutch.

Frames	Title	Price
841-905 PB L 82115	Problems of cosmic physics. By Christian Jensen. Vol. XX. The polar light and problems of the highest atmospheric layers. By Leiv Harang. 1940. In German. Published by "Akademische Verlagsgesellschaft Becker & Erler Kom. Ges.," Leipzig.	$8.00

Publications of the "Geophysikalisches Institut der Universität Leipzig." In German.

906-946 PB L 82115	Investigations on the meteorology of the dust atmosphere. By Martin Rötschke. Vol. XI, No. 1. 1937. In German.	6.00
947-987 PB L 82115	Symmetry point and symmetry of weather maps. By Fritz Model. Vol. XI, No. 2. 1938. In German.	6.00
988-1012 PB L 82115	The existence of slow moving air pressure oscillations on the rotating earth. By Walter Wünsche. Vol. XI, No. 3. 1938. In German.	4.00
1013-1065 PB L 82115	Stratosphere control and wave control. By Karl Schmiedel. Vol. IX, No. 1. 1937. In German.	7.00
1066-1096 PB L 82115	The air pressure wave of 1934 lasting for ten days and damping phenomena. By Rolf Pfau. Vol. IX, No. 3. 1938. In German.	5.00
1097-1126 PB L 82115	Singularities of the cyclone frequency in individual 5°:12° fields. By Gertraud Richter. Vol. IX, No. 4. 1938. In German.	4.00
1127-1169 PB L 82115	Correlation of air pressure waves in the northern hemisphere. By Karl Griessbach. Vol. VI, No. 1. 1933. In German.	6.00
1170-1200 PB L 82115	Measurements with the "Bergmann" visibility meter. By Rudolf Stange. Vol. VIII, cony 5. 1937. In German.	5.00
1201-1253 PB L 82115	The problem of ozone. By Rudolf Penndorf. Vol. VIII, No. 4. 1936. In German.	7.00
1254-1269 PB L 82115	Warm high pressure regions and their importance for the atmospheric economy of heat. By H. Mügge. Vol. III, No. IV. 1927. In German.	3.00
1270-1294 PB L 82115	Aerological investigations on the "Collmberg." By Hermann Pfeiffer. Vol. XI, No. 5. 1938. In German.	4.00
1295-1319 PB L 82115	The physical functioning of "Gallenkamp" evaporation meters and its application to microclimatological problems. By Katharina Dörffel. Vol. VI, No. 4. 1935. In German.	4.00
1320-1362 PB L 82115	Investigations of ground and building shocks caused by machinery, vehicles and wind by means of recordings of the "Benioff" vertical seismograph. By Gerhard Fritzsche. Vol. X, Appendix 1. 1937. In German.	6.00
1363-1452 PB L 82115	What do the clouds teach us? By H. G. Cannegieter. 1942. In Dutch. Published by Allert de Lange, Amsterdam.	10.00

PB L 82120. U. S. OCCUPATION FORCES IN GERMANY, WEATHER SERVICE, BAD KISSINGEN, GERMANY. Meteorological reports. (FIAT Microfilm Reel Y 44, Frames 6449-7123) 1936-1942. 675 f. Price: Microfilm-$7.00 - Enlargement print-$69.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
6449-6486 PB L 82120	Instructions for the observers at weather observation stations of the weather bureau. 1940. In German. Published by "Reichsamt für Wetterdienst."	$5.00
6487-6772 PB L 82120	Climatology of Germany. Volume II. By "Reichsamt für Wetterdienst." 1939. In German. Published by Dietrich Reimer, Andrews & Steiner, Berlin.	30.00
6773-6876 PB L 82120	Military physics. By Erich Günther. 1936. In German. Published by Moritz Diesterweg, Frankfurt am Main.	12.00
6877-6982 PB L 82120	Clouds, weather and winds. By E. van Everdingen. 1942. In German. Published by Kosmos, Amsterdam.	12.00
6983-7065 PB L 82120	Studies of the daily temperatures in Europe. By Rüner Meinander.	

1936. In German. 10.00
Dissertation presented to Helsingfors University.

7066-7086 PB L 82120 — Development of epidemics and climatic research. By Friedrich Wolter. 1936. In German. 4.00
Published by Hippokrates Verlag G.m.b.H., Stuttgart, Leipzig.

7087-7123 PB L 82120 — The climate of the geological era. By W. Köppen. 1940. In German. 5.00
Published by Gebr. Bornträger, Berlin.

PB L 82122. U. S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. Publications in meteorology. (FIAT Microfilm Reel Y 29, Frames 6065-6921) 1927-1939. 857 f. Price: Microfilm-$7.00 - Enlargement print-$87.00

This reel was prepared by FIAT investigators in Germany. Seven individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
6056-6181 PB L 82122	Aeronautical meteorology. By Walter Georgii. 1927. In German. Published by Akademische Verlagsgesellschaft, Leipzig. Index is on Frames 6059-6060; subject index, on Frames 6176-6178.	$14.00
6182-6372 PB L 82122	Gerland's contributions to geophysics. 2d volume. 1933. In German. Edited by V. Conrad and L. Weickmann. Published by Akademische Verlagsgesellschaft, Leipzig. Subject index is on Frames 6184-6187; authors' index, on Frames 6370-6372.	21.00
6373-6401 PB L 82122	Considerations of meteorological characteristics of fronts. By Bruno Abild. 1937. In German. Doctor's thesis submitted to the faculty of philosophy of the University of Kiel. The index is on Frame 6375.	4.00
6402-6652 PB L 82122	Lectures on physics of the atmosphere. By Alfred Wegner and Kurt Wegener. 1935. In German. Published by Johann Ambrosius Barth, Leipzig. The index is on Frames 6406-6408.	27.00
6653-6701 PB L 82122	New means for exact knowledge of nature. 1939. In German. Five lectures in Vienna. Published by Franz Deuticke, Vienna. The index is on Frame 6654.	6.00
6702-6869 PB L 82122	Geopsyche: the human being under the influence of weather, climate, soil and landscape. By Willy Hellpach. 1935. In German. Published by Verlag Wilhelm Engelmann, Leipzig. The index is on Frames 6706-6709; subject index, on Frames 6860-6867.	15.00
6870-6921 PB L 82122	The cosmic causes of the weather. By Karl Waitz. 1930. In German. Published by R. Voigtländers Verlag, Leipzig. The index is on Frame 6872.	7.00

PB L 82087. U. S. OCCUPATION FORCES IN GERMANY, WEATHER SERVICE, BAD KISSINGEN, GERMANY. Publications in meteorology. (FIAT Microfilm Reel Y-40, Frames 3623-4317) 1934-1943. 694 f. Price: Microfilm-$7.00-Enlargement print-$71.00.

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German, French and Norwegian.

Frames	Title	Price
3623-3673 PB L 82087	Instruments and meteorological observation procedures. This is part No. 1 from "Cours de météorology." By "Office national météorologique de France." 1937. In French. Published by "Editions Blondel La Rougery, Paris."	$7.00
3674-3723 PB L 82087	The method of air mass forecasting. By G. Schinze and R. Siegel. 1943. In German. Published by "Willibald Keller, Leipzig." Descriptive volume.	6.00
3724-3813 PB L 82087	The method of air mass forecasting. By G. Schinze and R. Siegel. 1943. In German. Published by "Willibald Keller, Leipzig." Illustrative volume.	10.00
3814-3830 PB L 82087	The delay in the indication of thermometers. By Fritz Lieneweg. This special print No. 3 is part of Vol. XVI of the "Wissenschaftliche Veröffentlichungen aus den Siemens-Werken." 1937. In German. Published by "Julius Springer, Berlin."	2.00
3831-3950 PB L 82087	Handbook. By Max Planck. This manual is Vol. 1 from "25 Jahre Kaiser Wilhelm Gesellschaft zur Forderung der Wissenchaften." 1936. In German. Published by "Julius Springer, Berlin."	13.00
3951-3970 PB L 82087	Aerological diagrams. By Leo Lysgaard. n.d. In Norwegian.	3.00
3971-4020 PB L 82087	The fundamentals of gliding. By Kurt Wegener. Second edition. 1935. In German. Published by "Akademische Verlagsgesellschaft m.b.H., Leipzig."	6.00
4021-4036 PB L 82087	Weather vane with indicator for ascending and descending winds. By L. Rhumbler. Special reprint from "Mitteilungen aus Forstwirtschaft und Forstwissenschaft." 1935. In German. Edited by the "Preussische Landesverwaltung"; published by "M. & H. Schaper, Hannover."	2.00
4037-4067 PB L 82087	Atmospheric absorption in ultraviolet light. By Arlette Vassy. n.d. In French.	5.00
4068-4100 PB L 82087	Contribution to the study of the movements of air. By Jacques van Mieghem. 1940. In French. Edited by "Institut Royal Météorologique de Belgique- Section d'Aérologie."	5.00
4101-4105 PB L 82087	Barometric and thermal variations in the atmosphere. By Louis Dufour. This is No. 4-6 of series 5, Vol. XXIX of "Bulletin de la classe des sciences." 1943. In French. Edited by "Académie royale de Belgique, Bruxelles."	2.00

4106-4118
PB L 82087 **Measurements of the temperature at a static point.** By W. Wimmer. No. 1, Vol. XI from "Ingenieur Archiv." 1940. In German. 1.50
Published by "Julius Springer, Berlin."

4119-4145
PB L 82087 **German aviation in the Third Reich.** By Heinz Oflovius. This is No. 4 from "Der neue deutsche Staat." 1934. In German. 4.00
Published by "Arno Reissenweber Verlag, Leipzig."

4146-4246
PB L 82087 **Principles of aviation medicine.** By Siegfried Ruff and Hubertus Strughold. 1939. In German. 12.00
Published by "Johann Ambrosius Barth Verlag, Leipzig."

4247-4317
PB L 82087 **Statics and thermodynamics.** By P. Raethjen, Vol. 1 from "Einführung in die Physik der Atmosphere." 1942. In German. 9.00
Published by "B. G. Teubner, Leipzig and Berlin."

PB L 82092. U. S. OCCUPATION FORCES IN GERMANY. WEATHER SERVICE, BAD KISSINGEN, GERMANY. **Publications in meteorology and climatology.** (FIAT Microfilm Reel Y 31. Frames 7617-8330) 1939-1942. 714 f. Price: Microfilm-$7.00 - Enlargement print-$73.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $7.00. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
7617-7700 PB L 82092	**Tropical hygiene.** By Ernst Rodenwaldt. 1942. In German. Published by Ferdinand Enke Verlag, Stuttgart.	$10.00
7701-7798 PB L 82092	**Studies on the condensation centers and their physical and biological importance in exterior and interior climates.** By Hans Forster. 1940. In German. Doctor's thesis presented to the faculty of natural science of the College of Engineering, Zurich.	11.00
7799-7920 PB L 82092	**Meteorological radiation measuring methods.** By W. Moerikhofer. 1939. In German. Special reprint from the "Handbuch der biologischen Arbeitsmethoden." Published by Urban and Schwarzenberg, Berlin and Vienna.	14.00
7921-7943 PB L 82092	**Knowledge of situation as applied to location of forests. Weather and climate.** By Rudolph Geiger. 1941. In German. Special reprint from "Neudammaer Forstliches Handbuch." 10th Edition.	4.00
7944-8052e PB L 82092	**Weather and climate in Germany. Outline of a general climatology of Central Europe.** By Hermann Flohn. 1942. In German. Published by S. Hirzel, Leipzig.	13.00
8053-8330 PB L 82092	**Introduction to synoptic weather analysis.** By S. P. Chromov, revised and translated into German by P. Konček and Gustav Swoboda. 1940. In German. Published by Julius Springer, Vienna.	29.00

ORDNANCE AND ACCESSORIES

*PB L 85206. FOWLER, R. J. **Welding design and fabrication of German tank hulls and turrets.** (BIOS Final Rept 614, Item 18). Oct 1946. 175 p. Price: Microfilm-$5.25 - Photostat-$18.00
This report consists of a detailed discussion of German tank hull and turret construction covering the following subjects: (1) Armor welding specifications; (2) development and design of welded joints; (3) indication of welds on drawings; (4) welding electrodes for armor; (5) preparation of armor plate for welding; (6) layout of production line; (7) assembly jigging and manipulation of hulls and turrets; (8) welding technique and procedure; (9) heat treatments of hulls and turrets; (10) production rates and times; and (11) quality of workmanship. 52 illustrations are included. A variety of subjects with specifications and standards to be observed are covered in Appendices A to N inclusive, and Appendices O to T contain detail drawings.

PB L 28561. SNYDER, HARRY L., JR. **Examination of AN-M52 incendiary bombs reported to have exploded.** (44th Chem Lab Co Technical Rept 39) Feb 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 28563. STANICK, EDMUND C. and BIEBER, ANDREW P. **Monthly intelligence report, Apr 1 - Jun 30, 1945.** Jul 1945. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
A report on captured enemy ordnance material.

PB L 28566. U. S. CHEMICAL WARFARE SERVICE. 256TH CHEMICAL SERVICE DETACHMENT LABORATORY. **Monthly intelligence report No. 2, Jan 1-31, 1945.** Feb 1945. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 28361. U. S. CHEMICAL WARFARE SERVICE. 45TH CHEMICAL LABORATORY CO. **Monthly intelligence report No. 6, Oct. 1-31, 1944.** Nov 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 28565. U. S. ENEMY EQUIPMENT INTELLIGENCE SERVICE. CHEMICAL WARFARE SECTION, INDIA-BURMA THEATER. **Flame thrower nameplates.** (Technical Rept 4) Apr 1945. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 77774. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. **Ballistic computer system. Vol. 1.** (Manufactured by Bell Telephone Laboratories, Inc., New York, N.Y.) (Instruction Book X-61877). Jun 1944. 311 p.
Price: Microfilm-$7.00 - Photostat-$21.00
This instruction book consists of ten sections covering the following subjects: Section I, general description of computer; II, computing process handled by computer with abstract problems; III, operation schematic of calculating circuit; IV, sequence of operation by master control circuit; V, process of handling director errors by computer; VI, punching of tapes; VII, method of operating the equipment; VIII, maintenance of equipment; IX, ordering of duplicate equipment; and X, list of detailed circuit descriptions. Diagrams are included.

PB L 28562. VIVADELLI, HUGO E. **Monthly intelligence report No. 10, Apr 1-30, 1945.** Apr 1945. 10 p.
Price: Microfilm-$1.00 - Photostat-$1.00
A report on captured enemy ordnance material.

PB L 73132. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for infrared and other objectives. (FIAT Microfilm Reel I-12, Frames 1-1323) 1935-1944. 1323 f. Price: Microfilm-$6.00 - Enlargement print-$132.50.
This FIAT microfilm reel consists of calculations and drawings for infrared and other objectives as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-38 PB L 73132	Infrared Summar objective 1 :1, f=20 mm. Calculations. 1944. In German.	$4.00
39-778 PB L 73132	Infrared Summar objective 1 :1, f=25 mm. Complete calculations, drawings, and graphs. 1944. In German.	74.00
779-917 PB L 73132	Magnifier for infrared optics 10x. Calculations. 1942. In German.	14.00
918-1040 PB L 73132	Loupe 10x, f=25 mm. Calculations. 1943. In German.	12.50
1041-1219 PB L 73132	Hektor objective 1 : 3.2 f=5.0 cm. (52 mm). Final calculations. 1935. In German.	18.00
1220-1288 PB L 73132	Teleobjective for miniature film cameras 1 : 4, f=75 mm. Calculations, drawings and graphs. n.d. In German.	9.00
1289-1323 PB L 73132	"Micro I." Calculations. 1935. In German.	3.50

PB L 73127. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for optics of various optical instruments. (FIAT Microfilm Reel I-7, Frames 1-1267) 1931-1946. 1267 f. Price: Microfilm-$6.00 - Enlargement print-$127.00.
This FIAT microfilm reel consists of calculations and drawings for optics of view finders, illumination equipment, projection and enlargement apparatus, telescopes, and telescopic sights, as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-35 PB L 73127	Optics for a Leica view finder, objective 1:9, f=600 mm. Calculations and drawings. 1937. In German.	$3.50
36-51 PB L 73127	Optics for illumination equipment of a voltmeter. Calculations and drawings. 1938. In German.	2.00
52-60 PB L 73127	Tabulation of trial exposures with all Leica objectives. 1934. In German.	1.50
60-67 PB L 73127	Tabulation of trial measurements with a range finder. 1946. In German.	1.50
68-78 PB L 73127	Quartz objective for the firm of Steeg & Reuter G.m.b.H., Bad Homburg: 1:1.5 f = 50.0 mm. Calculations. 1931. In German.	1.50
79-87 PB L 73127	Optics for type projection apparatus, Sx. Objective Dyson 1:2.8 f=14 mm. Drawings and calculations. 1936. In German.	1.50
88-124 PB L 73127	Tabulation of projection distances of Mois, Dimar and Dimax objectives. Also graphs and calculations. 1936. In German.	4.00
125-139 PB L 73127	Objective for an enlargement apparatus 1: 7.0 f = 64 mm. Calculations. n.d. In German.	1.50
140-163 PB L 73127	Achromat for portable projection apparatus with Petzval objective 1: 2.2, f = 64 mm. Calculations, graphs and drawing. 1939. In German.	2.50
164-196 PB L 73127	Lens for projection apparatus f=1000 mm. Calculations. 1940. In German.	3.50
197-205 PB L 73127	Optics for a centering arrangement with autocollimation. Calculations, f = 108.0 mm. 1942. In German.	1.50
206-208 PB L 73127	Reading telescope with parallel plates for Krupp. Calculations for optics. 1940. In German.	1.50
209-238 PB L 73127	Telescopic lens 1: 2.25, f= 325 mm. Calculations and drawings. 1944. In German.	3.00
239-264 PB L 73127	Steinheil loupe, 10x. Calculations and graphs. 1944. In German.	3.00
265-292 PB L 73127	Telesystem 1: 19.8, f= 162.4. Drawing and calculations. 1944. Incomplete. In German.	3.00
293-308 PB L 73127	Mois projection objective f = 350 mm. 1: 4.0. Calculations and drawing. 1944. In German.	2.00
309-394 PB L 73127	Optics for Seibert telescopic sight. Objective f = 113.53 mm and 107.74 mm, ocular f= 43.69 mm. Calculations, drawing and graphs. 1944. In German.	9.00
395-410 PB L 73127	Optics for binoculars 7 x 50. Calculations objective f = 222 mm. 1944. In German.	2.00
411-442 PB L 73127	Infrared objective f = 101.21 mm. 1 : 1.6. Calculations and graphs. 1944. In German.	3.50
443-509 PB L 73127	Tabulation of focusing depth and range of Xmar objectives with various diaphragms. 1939. In German.	7.00
509-718 PB L 73127	Tabulation of focusing depth and range of Micro-Summar objectives. 1939. In German.	21.00
719-751 PB L 73127	Tabulation of focusing depth and range of Leica objectives f= 50 mm. 1940. In German.	3.50
753-825 PB L 73127	Tabulation of focusing depth and range of Leica objectives f = 35 mm. 1945. In German.	7.50
826-845 PB L 73127	Calculations for focusing depth tables for Summarex objective 1 : 1.5 f = 85 mm. 1942. In German.	2.00
846-891 PB L 73127	Calculations for focusing depth tables for Hektor objective	

1 : 1.9 f = 75 mm. 1940. In German. 5.00

893-924 FB L 73127 Calculations for focusing depth tables for Zeiss objective 1 : 4.5 f = 200 mm. and other Leitz anastigmatic lenses. 1936. In German. 3.50

925-931 FB L 73127 Optics for telescopic sight T.Z.F 13. Objective f = 60 mm. 2.5x and 5x. Drawings, graphs and calculations for its reversing system. 1944. In German. 1.50

932-992 FB L 73127 Optics for turret telescopic sight T.Z.F. 12a. Objective f = 60 mm. 2x and 5x. Calculations for reversing system. 1944. In German. 6.50

993-1103 FB L 73127 Optics for turret telescopic sight. T.Z.F 12. 2.5x. Objective f = 60 mm. Calculations for reversing system, graphs and drawings. 1942. In German. 11.50

1104-1129 FB L 73127 Optics for turret telescopic sight. T.Z.F 5a. Objective f = 80 mm. 1 : 5.88. eyepiece f = 34.2 mm. 1 : 5.6. Calculations, graphs, and drawings. 1942. In German. 3.00

1130-1227 FB L 73127 Optics for turret telescopic sight. T.Z.F 9c. 5x. objective f = 240 mm. 1 : 5.33. Calculations, drawings and graphs. 1943. In German. 10.00

1228-1367 FB L 73127 Optics for turret telescopic sight T.Z.F. 3a by Busch. 2.4x. objective f = 106.64 mm. Calculations and graphs. 1944. In German. 4.00

FB L 73130. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for telescope optical system and infrared objectives. (FIAT Microfilm Reel I-10, Frames 4-1300) 1926-1946. 1297 f. Price: Microfilm-$6.00 Enlargement print-$130.00.

This FIAT microfilm reel consist of calculations and drawings for telescope and microscope optics and infrared objectives. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include FB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-99 FB L 73130	Profile projector objectives for measuring microscopes: Milars, Micro-Summar and achromats, f from 40 mm to 66.0 mm. Lists, and photos with drawings and calculations for a profile projector. 50x. 1937. In German.	$10.00
100-223 FB L 73130	Micro-Summar objectives f from 23.65 mm to f = 250 mm. Drawings for lenses, data, graphs and calculations. 1937. In German.	12.50
224-310 FB L 73130	Calculations, graphs, drawings and text for patent application for a rapid objective 1 : 1.25 f = 100 mm. application number L 90942 IX/42 h. 1940. In German.	10.00
311-433 FB L 73130	Photar objective 1 : 6.3 f = 150 mm and 180 mm. Calculations and drawings. 1930. In German.	12.50
434-477 FB L 73130	Projection objectives Elmar, f from 400 mm to 800 mm, 1 : 4.5 and 1 : 4.8. Calculations, graphs and drawings. 1926-1927. In German.	4.50
478-484 FB L 73130	Zeiss infrared projection objective f = 250 mm. 1 : 1. Graphs. n.d. In German.	1.50
485-489 FB L 73130	Tales of focusing length and depth of Elmar-Sismar objective f = 33 mm and Summarex objective 1 : 1.5 f = 85 mm. 1941. In German.	1.50
490-514 FB L 73130	Front lens systems for testing arrangement. Objectives Xenon 1 : 1.5 f = 5 cm; Summiter 1 : 2.0 f = 5 cm and Elmar 1 : 3.5 f = 5 cm. Drawings, focusing tables, graphs and calculations. 1941. In German.	2.50
515 FB L 73130	Telescopic gun sight Z.F. 6 x 42. objective f = 239.85 mm. ocular f = 40.49 mm. Drawing. 1946. In German.	1.50
516-537 FB L 73130	Telescopic gun sight 10 x 60. objective f = 223.8 mm. ocular f = 22.3 mm. Calculations, graphs and drawing. 1941. In German.	3.50
538-574 FB L 73130	Focusing telescope. Calculations and drawings. 1939. In German.	4.00
575- FB L 73130	Optical system for measuring microscope f = 100 mm. Drawing. 1944. In German.	1.50
576-590 FB L 73130	Infrared objectives f = 85 mm. 100 mm and 200 mm. Drawings and calculations. 1944. In German.	1.50
591-619 FB L 73130	Optics for turret telescopic sight T.Z.F. 3.26x, angle of view 19°. Drawings. 1944. In German.	3.00
620-624 FB L 73130	Optics for telescope 10 x 50. Objective f = 186 mm. ocular f = 18.19 mm. Drawings. 1943. In German.	1.50
625-627 FB L 73130	Optics for range finder. Summaron objective f = 3.5 cm 1 : 3.5. Drawings. 1945. In German.	1.50
628-638 FB L 73130	Optics for turret telescopic sight T.Z.F. 13. Objective f = 60 mm. ocular f = 25 mm. Drawings. 1944. In German.	1.50
639 FB L 73130	Optics for telescopic sight Sfl. Z.F. 10 x 60. Objective f = 250 mm. ocular f = 25 mm. Drawings. 1943. In German.	1.50
640-781 FB L 73130	Infrared projection objective f = 2000 mm. Drawing, graphs and calculations. 1941. In German.	14.50
782-936 FB L 73130	Infrared projection objective f = 600 mm, 1 : 40. Calculations, graphs and drawings. 1941. In German.	5.50
937-1222 FB L 73130	Infrared Elkinar objective 1 : 1.5. Calculations and graphs. 1941. In German.	29.00
1223-1300 FB L 73130	Infrared Summar objective 1 : 0.85 f = 150 mm. Calculations and drawing. 1941. In German.	8.00

FB L 73128. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for telescopic sights. (FIAT Microfilm Reel I-8, Frames 4-1232) 1938-1945. 1229 f. Price: Microfilm-$6.00 - Enlargement print-$123.00.

This FIAT microfilm reel consists of calculations, drawings and graphs for the optics of telescopic sights, periscopes, binoculars, etc., as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include FB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-179 FB L 73128	Optics for turret telescopic sight T.Z.F. 3a, 2.4x, f = 106.35 mm. Objective f = 44.16 mm. ocular f = 44.16 mm. Calculations, graphs and drawings. 1938-1944. In German.	$18.00
180-324 FB L 73128	Infrared Zikinar objective 1 : 1.25, f = 125 mm. Final calculations, graphs and drawings. 1942. In German.	14.50
325-385 FB L 73128	Optics for telescopic sight Sfl. Z.F. 10 x 60. Objective f = 250 mm. ocular f = 25 mm. Calculations, graphs and drawings. 1943. In German.	6.50
386-458 FB L 73128	Optics for telescopic sights Z.F.R. 2.5x and Z.F.R. 4x. Objective f = 138.34 mm. ocular f = 90 mm. Calculation, graphs, and drawings. 1943.- 1944. In German.	7.50
459-544 FB L 73128	Collimator objective f = 84.48 mm. Calculations and drawings. 1943. In German.	9.00
545-671 FB L 73128	Telescopic sight Z.F.R. 4a, 4x. Recalculations for optics after changing objective f = 227.81 mm to f = 216.05 mm. Drawings and graphs. 1943. In German.	13.00
672-786 FB L 73128	Optics for telescopic sight Z. F.R. 3a, 2.5x. Objective f = 106.6 mm. ocular f = 90 mm. Calculations for a correction. 1943. In German.	11.50
787-841 FB L 73128	Optics for telescopic sight Z.F.R. 4b, 4x. Recalculations for objective f = 216.54 mm. ocular f = 90 mm. Drawings and graphs. 1944. In German.	5.50
842-913 FB L 73128	Optics for telescopic sight Z.F.R. 3b, 2.5x. Recalculations for objective f = 224.68 mm. ocular f = 90 mm. Drawings and graphs. 1944. In German.	7.50
914-999 FB L 73128	Optics for binocular periscope G.Z.F. 1. Final calculations for objective f = 100 mm. Drawings and graphs. 1943. In German.	9.00
1000-1005 FB L 73128	Objective for binocular periscope G.Z.F. 1., 6x f = 204.8 mm. Calculations, graphs and drawings. 1944. In German.	1.50
1006-1154 FB 73128	Optics for binocular periscope G.Z.F. 2, 3x. Objective f = 101 mm. Calculations, drawings and graphs. 1945. In German.	15.00
1155-1232 FB L 73128	Binoculars 8 x 50. Objective f = 186 mm, ocular f = 23.25 mm. Calculations, drawings, and graphs. 1944. In German.	8.00

FB L 73138. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations and drawings for telescopic sights and other optical instruments. (FIAT Microfilm Reel I-18, Frames 4-1079) 1931-1944. 1076 f. Price: Microfilm-$6.00 - Enlargement print-$108.00.

This FIAT microfilm reel consists of calculations and drawings for objectives, optics for telescopic sights; range and view finders, and other optical instruments as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include FB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-80 FB L 73138	Special Summar objective for enlargers 1 : 4.0 f = 25 mm. Calculation. 1935. In German.	$8.00
81-102 FB L 73138	Combination range and view finder using an adjustable achromatic objective. Calculations. 1938. In German.	2.50
103-135 FB L 73138	Telesystem for combination range and view finder. Calculations and drawings. 1938. In German.	3.50
136-148 FB L 73138	Enlargement objective 2.5x, 1 : 4.0 f = 5 cm. Calculations and drawing. 1935. In German.	1.50
149-217 FB L 73138	Objectives f = 200 mm. 1 : 3.3 and f = 800 mm. 1 : 8. Calculations, drawings and graphs. 1939. In German.	7.00
218-325 FB L 73138	Summar objective 1 : 1.5 f = 5 cm. Calculations, drawings and graphs. 1937. In German.	11.00
326-331 FB L 73138	Triplet 1 : 5.5 f = 100 mm. Calculations. 1931. In German.	1.50
332-441 FB L 73138	Ocular f = 90 mm. Reduction from f = 81 mm. Calculations. 1943. In German.	11.00
442-585 FB L 73138	Objective for telescopic sight Z.F.R. 3A., 2.5x. Calculations and graphs. 1943. In German.	14.50
586-721 FB L 73138	Objective for telescopic sight Z.F.R. 4A, 4x. f = 228.8 mm. 1 : 2.86. Calculations and graphs. 1943. In German.	14.00
722-801 FB L 73138	Collimator objective f = 84 mm. Calculations and drawings. 1943. In German.	8.00
802-1063 FB L 73138	Turret telescopic sight. T.Z.F. 13.5x. Calculations, drawings and graphs. 1944. In German.	26.50
1064-1079 FB L 73138	Turret telescopic sight T.Z.F. 12A, 5x. Calculations. 1944. In German.	4.00

FB L 73131. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations for infrared objectives. (FIAT microfilm Reel I-11, Frames 4-1204) 1941-1944. 1201 f. Price: Microfilm-$6.00 - Enlargement print-$120.50.

This FIAT microfilm reel consists of calculations for infrared objectives as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include FB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-75 FB L 73131	Calculations for an unidentified infrared objective. 1941. In German.	$7.50
76-519 FB L 73131	Infrared Summar objective f = 250 mm, 1 : 1. Complete calculations. 1943. In German.	49.50

520-809 PB L 73131 — Three-lens infrared objective f=8 cm. 1 : 2.0. Calculations and graphs. 1944. In German. 29.00

810-1204 PB L 73131 — Infrared objectives 1 : 1.5 f=85 mm and f=100 mm. Calculations and graphs. 1944. In German. 39.50

PB L 73137. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and calculations for objectives. (FIAT Microfilm Reel I 17, Frames 4-1300) 1936-1939. 1297 f. Price: Microfilm-$6.00 - Enlargement print-$130.00

This FIAT microfilm reel consists of calculations and drawings for objectives as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4-146 892-1082 PB L 73137	Summar objective 1 : 2.0 f=5 cm. Calculations, graphs and drawings. 1937-1938. In German.	$33.50
147-545 PB L 73137	Hektor objective. Description illegible. Calculations and graphs. Some frames may not reproduce well. 1936-1939. In German.	40.00
546-808 PB L 73137	Objective for panoramic telescope f=100 mm. Calculations, graphs and drawings. 1938. In German.	26.50
809-891 PB L 73137	Objective for panoramic telescope. Reduction from f=100 mm to f=600 mm. Calculations. 1938. In German.	8.50
1083-1235 PB L 73137	Hektor objective 1 : 8.6 f=600 mm. Calculations. 1938. In German.	15.50
1236-1300 PB L 73137	Description illegible. Calculations. Many frames will not reproduce well. n. d. In German.	6.50

PB L 73135. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and calculations for projection and other objectives. (FIAT Microfilm Reel I-15, Frames 1-1284) 1939. 1284 f. Price: Microfilm-$6.00 - Enlargement print-$128.50

This FIAT microfilm reel consists of calculations and drawings for projection and other objectives as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-91 PB L 73135	Optics for Epi projection apparatus. 600 mm. 1 : 5. Calculations. n.d. In German.	$9.50
92-164 PB L 73135	Front lens for a portable camera using Elmar objectives 1 : 4.5. Calculation and graphs. n.d. In German.	7.50
165-284 PB L 73135	Elmar objectives 1 : 2.5 and 1 : 3.5, f=5.0 cm and f=7.5 cm respectively. Calculations, drawings and graphs. n.d. In German.	12.00
285-391 PB L 73135	Elmar objective f=2.5 cm. 1 : 1.4. Calculations, drawings and graphs. n.d. In German.	11.00
392-463 PB L 73135	Elmar objective for miniature film cameras. f=5 cm. 1 : 2.5. Calculations. n.d. In German.	7.50
464-700 PB L 73135	Elmar objective 1 : 1.5. Calculations, drawings and graphs. n.d. In German.	14.00
701-1008 PB L 73135	Objective f=52 mm. 1 : 6.3. (for motion picture apparatus). Calculations. 1939. In German.	31.00
1009-1148 PB L 73135	Epis projection objective f=150 mm. 1 : 3.6. Calculations. 1939. In German.	14.00
1149-1201 PB L 73135	Calculations for an unidentified objective based on Summar 1 : 1.5. n.d. In German.	5.50
1202-1284 PB L 73135	Supplementary lens for Elmars f=13.5 cm and f=9 cm. Drawings, graphs and calculations. n.d. In German.	8.50

PB L 73142. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Parts lists and drawings for microscopes for use with machine tools; projectors, etc. (FIAT Microfilm Reel I 22, Frames 1909-2671). 1937-1946. 763 f. Price: Microfilm-$6.00 - Enlargement print-$76.50

This FIAT microfilm reel consists of parts lists and drawings for microscopes for use in connection with various machine tools, measuring and reading microscopes, projection apparatus and accessories for these and similar optical instruments. 57 individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German. Many frames, particularly those showing drawings, will not reproduce well.

Frames	Title	Price
1909-1915 PB L 73142	Profile testing apparatus. Parts list and drawing. 1940. In German.	$1.50
1916-1918 PB L 73142	Dilatometer for nilijective observation. Parts list. n. d. In German.	1.50
1919-1920 PB L 73142	"Profilux" projection apparatus. Parts list. 1941. In German.	1.50
1921-1940 PB L 73142	H.T.V.E. Dilatometer. Parts list. 1943. In German.	2.00
1941-1946 PB L 73142	Illumination equipment for cog wheel testing apparatus. Parts list and drawings. 1939. In German.	1.50
1947-1948 PB L 73142	Projection apparatus for scale testing. Parts list and drawing. 1940. In German.	1.50
1949-1950 PB L 73142	Leucocytometer. Parts list. 1942. In German.	1.50
1951-1953 PB L 73142	Standard "Profilux" projection apparatus. Parts list and drawing. 1940. In German. (May not reproduce well).	1.50
1954-1967 PB L 73142	Testing device for Leica shutters. Parts list and drawings. 1938 and 1946. In German. (May not reproduce well).	1.50
1968-1971 PB L 73142	Transformer for a 12 v 1000 watt lamp. Parts list and drawings. 1943. In German.	1.50
1972-1973 PB L 73142	Choke for sodium lamp. Parts list and drawing. 1940. In German.	1.50
1974-1976 PB L 73142	Choke for mercury lamp. Parts list and drawings. 1940. In German.	1.50
1977-1979 PB L 73142	Transformer for a 12 v 0.8 amp. lamp for surface testing microscope. Parts list and drawing. n. d. In German.	1.50

1980-2043 PB L 73142 — Transformer and other electric equipment for heating table according to Weygand. Parts list and drawings. 1940. In German. 6.50
(Some frames may not reproduce well).

2044-2073 PB L 73142 — Electric equipment spectroscope for mercury lamp. Parts lists and drawings. 1940. In German. 3.00
(Some frames illegible).

2074 PB L 73142 — Horological microscope. Drawing. n. d. In German. 1.50
(Will not reproduce well).

2075-2079 PB L 73142 — Illumination equipment for microscopes MA III and MA IV. Drawings. 1940. In German. 1.50
(Will not reproduce well).

2080-2089 PB L 73142 — These frames are illegible.

2090-2135 PB L 73142 — Accessories for Panphot equipment. Parts list and drawings. 1946. In German. 5.00
(Many frames illegible).

2136-2159 PB L 73142 — These frames are illegible.

2160-2161 PB L 73142 — Large metallographic microscope MM 1938. Drawings. 1940. In German. 1.50

2162-2177 PB L 73142 — Profile projection apparatus with plane table 50 B. Parts list and drawings. n. d. In German. 2.00

2178-2186 PB L 73142 — Optics for relief grinding machine Rohde and Dörrenberg. Parts list and drawings. 1940. In German. 1.50
(Some frames will not reproduce well).

2187-2189 PB L 73142 — Equipment for profile measuring comparison projector Strassmann. Parts list and drawings. 1940. In German. 1.50

2190-2194 PB L 73142 — These frames are illegible.

2195-2196 PB L 73142 — These frames are missing.

2197-2206 2260-2274 PB L 73142 — Measuring microscope for tooling machines. Parts list and drawings. 1942. In German. 2.50
(Some frames illegible).

2207-2228 2238-2247 PB L 73142 — Measuring microscope with precision ocular and direct illumination. Parts list and drawings. 1941. In German. 4.00
(Several frames will not reproduce well).

2229-2230 2248-2252 PB L 73142 — Collimation f= 600 mm. Parts list and drawing. 1941. In German. 1.50

2231-2237 2253-2259 PB L 73142 — Illumination equipment for workshop microscope. Parts list and drawings. 1942. In German. 1.50
(Some frames will not reproduce well).

2275-2341 PB L 73142 — Surface testing equipment according to Foster. Parts lists and drawings. 1946. In German. 7.00
(A number of frames will not reproduce well).

2342-2354 PB L 73142 — Precision eyepiece. Parts lists and drawings. 1943. In German. 1.50
(Some frames indistinct).

2355-2358 PB L 73142 — Feeler head, 2 mm base. Parts list and drawings. 1945. In German. 1.50

2359-2367 PB L 73142 — Measuring microscope for Schmid and Schaudt. Parts list and drawings. 1943. In German. 1.50
(Some frames indistinct).

2368-2373 PB L 73142 — Microscope for tooling machines. Parts list and drawings. n. d. In German. 1.50
(These frames are indistinct).

2374-2401 PB L 73142 — Measuring microscope with displacement 10 x 25 mm. Parts list and drawings. 1944. In German. 3.00

2402-2405 PB L 73142 — Microscope illumination equipment. Parts list and drawings. 1940. In German. 1.50
(These frames are indistinct).

2406-2415 PB L 73142 — Optics for comparison microscope. Parts list and drawings. 1945. In German. 1.50
(These frames are partly indistinct).

2416-2438 PB L 73142 — Projection equipment for profile measuring microscope. Parts list and drawings. 1946. In German. 2.50

2439-2441 PB L 73142 — Projection equipment for goniometric oculars. Parts list. 1938. In German. 1.50

2442-2479 PB L 73142 — Prism adjusting arrangement for Strassmann profile measuring microscope. Parts list and drawings. 1938. In German. 1.50

2480-2491 PB L 73142 — Reading microscope with precision measuring ocular. Parts list and drawings. 1940. In German. 1.50
(Drawings will not reproduce well).

2492-2495 PB L 73142 — Accessories for workshop microscope. Parts list and drawings. 1938. In German. 1.50

2496-2514 PB L 73142 — Focusing microscope for Vomag. Parts list and drawings. 1941. In German. 2.00
(Drawings indistinct).

2515-2525 PB L 73142 — Rotary stage, 360° for reading microscope. Parts list and drawings. 1941. In German. 1.50
(Drawings are indistinct).

2526-2534 PB L 73142 — Tiltable microscope for tooling machines. Parts list. 1938. In German. 1.50
(These frames are indistinct).

2535-2539 PB L 73142 — These frames are illegible.

2540-2545 PB L 73142 — Comparison microscope for surface examination. Parts list. 1937. In German. 1.50

2546-2555 PB L 73142 — Simple measuring microscope, 25 x 25 mm. Parts list. 1937. In German. 1.50

2556-2560 PB L 73142 — Projection equipment for goniometric ocular. Parts list and drawings. 1937. In German. 1.50

2561-2567 PB L 73142 — Simple measuring microscope for tooling machines. Parts list and drawings. 1937. In German. 1.50

2568-2574 PB L 73142 — Microscope for Lindner tooling machines. Parts list and drawings. 1937. In German. 1.50

2575-2597 PB L 73142 — Profile measuring microscope IIa. Parts list and drawings. 1943. In German. 2.50
(These frames are partly indistinct).

Photographic and Optical Goods (contd)

2598-2603 PB L 73142 — Motor drive for boring spindle. Parts list and drawings. 1941. In German. (Drawings are indistinct). 1.50

2604-2607 PB L 73142 — Measuring microscope for grinding machines. Parts list. 1941. In German. 1.50

2608-2618 PB L 73142 — Surface examination microscope. Parts list. 1937. In German. 1.50

2619-2620 PB L 73142 — Ocular with adjustable cross hairs. Parts list. 1942. In German. 1.50

2621-2632 PB L 73142 — Lindner reading microscope. Parts list and drawings. 1941. In German. 1.50

2633-2637 PB L 73142 — These frames are illegible.

2638-2642 PB L 73142 — Mounting for microscope measuring stage. Parts list and drawings. 1942. In German. (These frames are indistinct). 1.50

2643-2649 PB L 73142 — High-precision optical grinding machine. Parts list and drawings. 1941. In German. (Drawings are indistinct). 1.50

2650-2666 PB L 73142 — Measuring microscope with 10 mm displacement. Parts list and drawings. 1941. In German. 2.00

2667-2671 PB L 73142 — Measuring microscope with 25 mm displacement. Parts list and drawings. 1941. In German. 1.50

*PB L 81847. WEAVER, C. S. The Leitz "Xenon" F 1:1.5 5cm lens. (FIAT Final Rept 781). Mar 1946. 6 p. Price: Misc-$0.25

This report gives a brief history of the Leica "Xenon" 5 cm. F 1:1.5 lens which was designed and built by the Ernst Leitz Co. at Wetzlar, Germany. Details with regard to manufacture of the "Xenon" are given in figure 1 and 2 and the information contained therein is self-explanatory and complete. This report is based on information obtained from Mr. Henri Dumur, Director of Ernest Leitz Optical Works, and his scientific staff.

RUBBER AND RUBBER PRODUCTS

PB L 35000 - PB L 35167. U. S. OFFICE OF RUBBER RESERVE, ed. German synthetic rubber reports collected by T.I.I.C. (Microfilm reel No. 5841-1)

Because of continued interest in the Rubber Reserve Microfilms, 5841-1 through 5841-10, which have appeared as PB 13321-PB 13330 (see v. 4, p. 500-501, of this Bibliography), the reports are being made available individually. The present group of reports (PB 35000 - PB 35167) duplicate the contents of the first reel, Rubber Reserve Microfilm Reel 5841-1. Among these 168 reports are 49 reports of the rubber laboratory of the I. G. Farbenindustrie which deal with studies and experiments on polymerization and copolymerization of Bunas and Buna latices under the influence of various polymerization regulators, various acrylic acid derivatives, and copolymers (Meisenburg reports). Thirty-three other reports of which Franke is author or coauthor deal with studies and experiments on acrylic compounds, the reaction of tetrahydrofuran with hydrocyanic acid, reactions with diethylaminopentadiene, preparation of levulinonitrile, various condensation reactions, and preparation and reactions of 2,2-dimethyl-4-cyanobutyraldehyde. The remaining reports deal with a variety of unrelated subjects, such as new synthetic detergents for the textile industry, dyeing problems, the production of acetaldehyde, wetting agents, emulsifying agents, acrylonitrile, vinylmethylketone, etc. Furthermore, installations and production processes of certain I. G. plants are described with diagrams and flow sheets. Summarizing reports on German gasoline and on the Reppe process may be of special interest. Large portions of the material are hard to read and will not reproduce well. An index listing each individual report by its German title and English translation appears in this issue of the Bibliography as PB 35990.

PB L 35990. OFFICE OF TECHNICAL SERVICES, BIBLIOGRAPHY SECTION. Index of Rubber Reserve Microfilm Reel 5841-1. PB 13321. Dec 1947. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00

This index, which has been prepared by the Office of Technical Services, lists the 168 individual reports contained in the first of ten microfilm reels prepared under the auspices of the U. S. Office of Rubber Reserve. It lists the PB number, Rubber Reserve number, author, and the German title with its English translation. The individual reports appear in this issue as PB 35000 - PB 35167. For an abstract on Microfilm Reel 5841-1, which has appeared earlier, see v. 4, p. 500, this Bibliography.

PB L 35000. MEISENBURG. Buna S-Bunes, Buna S-Durene, phosphonitrile chloride, polymerization of styrene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 261). Dec 1936. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 74 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, Dec 17, 1936. Addition of various amounts of "Diproxid" (diisopropylxanthogenic disulfide) to polymers of Buna S-latex and Bunes improved the utilization of these polymers. In testing it was found that the addition of Bunes to Buna S decreased only a little the tensile test values and the elasticity of the polymers. Addition of Duprene to Buna S impaired its elasticity. Experiments with phosphonitrile chloride showed that this agent is technically useless on account of its difficult solubility and the easy separation of hydrochloric acid. Addition of diproxid to styrene decreased the viscosity of the emulsion polymerized products in solution. Details are presented in an experimental section. In German.

PB L 35001. MÖSSLEIN, J. From soap to "Igepal." New synthetic detergents and finishing agents for the textile industry. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 722) 1937. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is a reprint from "Melliand Textilberichte, Heidelberg, 1937, No. 3." It describes in a semi-technical way properties of the following I.G. Farbenindustrie A.G. products: "Nekal" A, "Medialan" A, "Igepon" A and T, "Igepal" C,L,F, and J, Peregal O, and the "Amphosoap" DN. In German.

PB L 35002. MEISENBURG. Buna N-chlorobutadiene. Chlorbutadiene, isoprene, 2,3-dimethylbutadiene polymers. (Part of Rubber Reserve Microfilm Reel 5841-1 PB 13321) (Rubber Reserve Rept 260) Feb 1937. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 75 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen dated Feb 22, 1937. Addition of chlorobutadiene to Buna N lowers the elasticity. The products could be better worked in rolls, gave softer and more plastic mixtures, better sprayability, lower loading and extension, and lower elasticity than Buna N. Polymerization of isoprene, performed in 5% sodium oleate solution at 60°C results, in good yields; in the presence of small amounts of diproxid, the yields were almost quantitative. 2,3-Dimethylbutadiene polymerizes in the presence of ammonium persulfate. Small amounts of diproxid accelerate the polymerization. Details are presented in an experimental section. In German.

PB L 35003. MEISENBURG. Polymerization regulators, Buna S, isoprene polymer. (Part of Rubber Reserve

Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 258) Apr 1937. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 77 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen dated Apr 23, 1937. Addition of thiuram hinders polymerization of chlorobutadiene completely. Addition of tetrabutyl thiuram disulfide retards the polymerization of chlorobutadiene greatly and decreases the yields of chlorobutadiene and Buna S-polymer. Addition of diethylcyclohexyl thiuram monosulfide delays the polymerization of chlorobutadiene and decreases the yield. Soluble polymers form after addition of 0.2% of diethylxanthogene disulfide to the Bunen (butadiene)-styrene polymerization (yield 62%), after addition of 0.4% of diisobutylxanthogene disulfide (yield 76%), and after addition of dibutylxanthogene disulfide (yield 67%). Only little polymerization of Buna S occurs if 0.1 g of ethylxanthogenic acid piperidine methylene ester is added. Addition of dimethylxanthogenic acid monosulfide decreased the yield of Buna S considerably. Nitrobenzene and phenyl- α-naphthlamine greatly decrease the yield without producing a soluble Buna S-polymer. All of the compounds studied are inferior to diproxid. Details are presented in an experimental section. In German.

PB L 35004. MEISENBURG. Buna S-Diproxid, Buna K, polyvinyl chloride. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 255) Jul 1937. 5 f. Price: Microfilm-$1.00 - Enlargement Print $1.50
This is report No. 80 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Jul 17, 1937. Based on the findings that a butadiene-styrene mixed rubber prepared in Nekal-emulsion in the presence of about 0.8% diproxid is superior to Buna K 85 in workability and strength, it is recommended that Buna K 32 and K 85 be replaced by Bunem-diproxid or Buna S-diproxid. Bunen-nitrile (cyano butadiene) can be polymerized in sodium oleate emulsion in the presence of sulfur or thiuram at 60°C into a workable but insoluble mixed rubber. Bunen (butadiene)-vinylmethylketone can be polymerized into a good mixed rubber. Various experiments were made to replace the sodium oleate with other emulsifying agents (Igepon, ammonium salt of Glyptal and Alkydal NT, Nekal). Attempts to produce a soluble polymerized vinyl chloride failed. Details are presented in an experimental section. In German.

PB L 35005. MEISENBURG. Buna S, Buna K, regulator. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 254) Aug 1937. 5 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 81 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Aug 26, 1937. New experiments were performed on Buna S with a diproxid content of 0.6 and 0.7%. The results were almost identical with those with a diproxid content of 0.8%. As the Bunen-vinylmethylketone polymerization is susceptible to alkali, sodium pyrophosphate was added to the Nekal BXG-solution instead of a solution of caustic soda. The polymers can be well rolled and are almost odorless. The tensile test values are still unsatisfactory. Experiments with benzoethylxanthogene disulfide, diphenyl hydrazine, dimethylaniline, trimethylamine oxide chlorine hydrate, tetraethylxanthogene selenide, phenylhydrazine, hydroquinone, diethylxanthogene disulfide, hevea rosin, stearylamine, sorbic acid, and isoprene showed that only highly pure diethylxanthogenic disulfide had the properties of a good regulator. Details are presented in an experimental section. In German.

PB L 35006. MEISENBURG. Bunen and Buna S-Diproxid, Divinylbenzene. Buna K, Bunen. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 253) Oct 1937. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 82 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Oct 27, 1937. Bunen and Buna S polymers prepared with plenty of diproxid examined as possible plasticizers for rubber. They yielded vulcanizates with more strength and elasticity but poorer sprayability than those treated with Buna 32. As to polymerization regulators, isobutylxanthogenic disulfide and isoamylxanthogenic disulfide are inferior to diproxid. 0.9% of diethylxanthogenic disulfide decreases the yield. Divinylbenzene with and without diproxid leads to smooth films. Regarding Buna K, the salt content of the emulsifying agent plays an important role. After two days Nekal BXG with an addition of only 0.1% of persulfate leads to a quantitative polymerization; Nekal BX even with plenty of persulfate gives unsatisfactory yields. Details are presented in an experimental section. In German.

PB L 35007. MEISENBURG. 2,3-Diphenylbutadiene, ketobutanol, dipropenylglycol, dicyclohexenyl- β -naphthylamine. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 251) Dec 1937. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 84 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Dec 28, 1937. Instead of styrene diphenylbutadiene was added to the Bunen polymerization. 22.5% of the agent added to Bunen gave a plastic benzene-soluble product, 6.5% of the agent added to Bunen gave a benzene-insoluble products. 22.5% of ketobutanol does not polymerize Bunen. Addition of 2% of dipropenylglykol to the Bunen-nitrile polymerization greatly decreases the yield of Buna N. Dicyclohexenyl- β -naphthylamine hinders the polymerization of Bunen. Furthermore, the preparation of acetophenone pinacone was studied. Details are presented in an experimental section. In German.

PB L 35008. SCHWEN, GUSTAV. Problems of even and thorough dyeing. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 726) Jun 1938. 24 f. Price: Microfilm-$1.00 - Enlargement Print-$2.50
This is a reprint from "Monatshefte für Seide, Kunstseide, Zellwolle," Jg. 43, 1938, No. 7, pp 369-378. According to the author uneven dyeing results are caused by the structure of the fiber and faulty pretreatment of the material before dyeing. With the help of 20 pictures the results of experiments on the influence of constitution, temperature, PH-value and time on affinity of the dyes and their power of dyeing evenly are described. Leveling agents are divided into those with affinity for the fibers and those with affinity for the dye. Types of their constitution are given in general formulas. In German.

PB L 35009. MEISENBURG. 2,3,6,7-Tetraphenyanthraquinone, benzoic acid ester of α -ethylacrolein-cyanohydrin, phenylacrylonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 247) Mar 1938. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 87 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Mar 26, 1938. 2,3-Diphenylbutadiene was added to benzoquinone and bis-diphenylbutadiene quinone thus obtained oxidized with air to 2,3,6,7, tetraphenylanthraquinone in the presence of alcoholic caustic potash solution. α -Ethyl acrolein cyanohydrin polymerizes on heating into a constant-boiling oil without resin-formation. Its benzoic acid ester is easily soluble in petroleum. If traces of phosphorus are added to acetophenone cyanohydrin its distillation can be performed easily. By dehydration phenylacrylonitrile is obtained. The preparation of phenylacrylic acid ester is studied. Details are presented in an experimental section. In German.

PB L 35010. MEISENBURG. Phenylacrylonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 246) Apr 1938. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 88 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Apr 21, 1938. By reaction of aceticanhydride with pure acetophenone cyanohydrin, or undistilled acetophenone containing acetophenone cyanohydrin, the absolutely stable acetic ester of acetophenone cyanohydrin could be obtained. Almost without change this ester could be distilled with potassium bisulfate. If the ester is passed through an electric furnace filled with Raschig rings at 415-420°C, 13 mm, a product is obtained which is probably a polymeric phenylacrylonitrile; it boils at 214°C, 12 mm. After standing for two days

phenylacrylonitrile is very viscous; it solidifies after standing for twelve days. Details are presented in an experimental section. In German.

PB L 35011. MEISENBURG. Methyl ester of phenylacrylic acid, phenylacrylonitrile, β-cyanobutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 245) May 1938. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 89 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated May 20. 1938. The experimental part of this report deals with the preparation of (1) atrolactic acid, (2) atrolactic acid methylester, and (3) atropic acid methylester. The heat polymerization of (3) led to a high boiling oil. A good yield of a constant boiling viscous oil was obtained by heat polymerization in the presence of benzoylperoxide; this product is probably the dimer of the ester. Experiments for the emulsion polymerization of (3) alone or together with butadiene are under way. In continuation of previous work on phenylacrylonitrile, analytical data on the product are given. Experiments to obtain β-cyanobutadiene by dehydration of the cyanohydrin of vinylmethylketone or dehydration of the acetic ester of the vinylmethylketone were unsuccessful. In German.

PB L 35012. MEISENBURG. Bunen-methyl methacrylate Bunen-methyl phenylacrylate, esters of α-hydroxy-α-vinylpropionic acid. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 244) Jun 1938. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 90 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jun 22, 1938. If methyl phenylacrylate is allowed to settle it changes into a dimer just as if heated with benzoylperoxide. Good yields of plastic copolymers of bunen and methyl methacrylate were obtained with "Nekal" in the presence of sodium pyrophosphate and ammonium persulfate at 30°C. Similar results were seen in the polymerization of bunen and methyl phenyl acrylate; however the absorption of carbon black was not satisfactory. Usual dehydration methods did not dehydrate α-hydroxy-α-vinylpropionic acid ester. The preparation of this ester is described in the experimental section of the report. In German.

PB L 35013. MEISENBURG. Phenylacrylonitrile, β-cyanobutadiene, crotonaldehyde diacetate, isopropenyl methyl ketone cyanohydrin dimerization, phenyl sorbonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 243) Jul 1938. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 91 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jul 21, 1938. Acetic acid ester of acetophenone cyanohydrin, passing over silica gel at 440°C at 12 mm, leads to phenylacrylonitrile and dimeric phenylacrylonitrile. 15% of β-cyano butadiene was obtained if the acetic acid ester of vinylmethylketone cyanohydrin was passed over silica gel at 475-495°C, at 12 mm. After standing for eight days, 23% of the β-cyanohydrin had changed into the dimer. If crotonaldehyde-diacetate was passed over magnesium sulfate or silica gel, crotonaldehyde and acetic anhydride was obtained. Preparation of isopropenyl methylketone cyanhydrin is briefly outlined. Benzoyl peroxide did not accelerate the dimerization of oletins, dioletins, and Bunen in the presence of copper oleate. Phenyl sorbonitrile and Bunen did not polymerize. Details are presented in an experimental section. In German.

PB L 35014. MEISENBURG. Copolymerization of Bunen-diphenylbutadiene, -α-methylstyrene, -dihydrobenzene, -α-ethylacrolein. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 250) Jan 1938. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 85 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jan 24, 1938. Copolymerization of Bunen with 22.5% of diphenyl butadiene leads to copolymers vulcanizates of which in carbon black containing or carbon black free mixtures give lower values than those of Buna S. With 6.8% of diphenylbutadiene the copolymers are identical to the analogous Buna S polymers. Copolymerization of Bunen with 22.5% of α-methylstyrene gives a mixed rubber which is identical to the analogous Buna S. With 6.8% of α-methylstyrene the values of the copolymers are better than those of the analogous Buna S-polymers. Dihydrobenzene is only difficultly polymerized. Copolymerization of Bunen with 6.8% of ethylacrolein leads to a good yield of an insoluble mixed rubber identical with the analogous Buna S. With 22.5% of α-ethylacrolein fair yields of plastic, soluble but short polymers are obtained. There was no polymerization of Bunen with 22.5% of crotonaldehyde. Details are presented in an experimental section. In German.

PB L 35015. MEISENBURG. Polymerization of Bunen-divinylbenzene -isoprene, -chlorobutadiene, Vinyl methyl ketone cyanohydrin benzoate, 2,3-diphenyl epthraquinone. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 248 and 249) Feb 1938. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 86 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Feb 24, 1938. Copolymers of Buna N and divinylbenzene have good sprayability and elasticity. The elasticity was not so good if the polymerization was performed in an autoclave. Copolymers of Bunen with 7.75 and 22.5% of isoprene do not differ much from pure Bunen in their external appearance. However, they can be easily degraded and then show good plasticity. Coplymers of Bunen with 7.75% of chlorobutadiene did not stand up under treatment and were too rigid. - A method for preparation of benzoic acid ester of vinylmethylketone cyanohydrin is presented. The product was just as good an insecticide as the benzoic acid ester of crotonaldehyde-cyanohydrin. The preparation of 2,3-diphenylanthraquinone by addition of 2,3-diphenylbutadiene to naphthoquinone is described. Details are presented in an experimental section. In German.

PB L 35016. MEISENBURG. α-Cyanobutadiene, β-cyanobutadiene, β-cyano-γ-methylbutadiene copolymerized in the cold, α-ethylacrolein. (Part of Rubber Reserve Rept 242) Sep 1938. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 92 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Sep 5, 1938. 62% of α-cyanobutadiene was obtained if the acetic ester of croton aldehyde cyanohydrin was passed over silica gel at 500°C in a current of carbon dioxide. Various experiments for the emulsionpolymerization of α-cyanobutadiene are described. At 640°C, 18 mm, 37.420 of β-cyano-γ-methylbutadiene was obtained from the acetic ester of isopropenyl methyl ketone cyanohydrin. β-γ-dimethylbutadiene cold polymer added to vinylmethylketone led to a rubber-like polymer which hardened in air and became plastic on rolling like β-chlorobutadiene rubber. The product was not vulcanizable. β-α-dimethylbutadiene and Bunen with or without nitrile, styrene, vinylmethylketone, acrylic acid ester, and methacrylic acid ester were subaitted to cold polymerization. Only the β-γ-dimethylbutadiene acrylci acid ester mixture polymerized. Details are presented in an experimental section. In German.

PB L 35017. MEISENBURG. α-Cyanobutadiene, β-cyanobutadiene, phenylacrylonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 241) Oct 1938. 4 f. Price: Microfilm-$1.00 Enlargement Print-$1.50
This is report No. 93 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Oct 26, 1938. In Emulphor emulsion at room temperature α-cyanobutadiene can be almost quantitatively polymerized into a rubber which is similar to chloroprene and is capable of being rolled. β-Cyanobutadiene dimerizes quickly, and in sodium oleate emulsion polymerizes into a rubber-like product in a short time. The product is similar to Bunen-emulsion rubber. In continuation of previous work, experiments for the preparation of phenylacrylic acid nitrile led always to more or less large amounts of dimeric phenylacrylic acid nitrile. In German.

PB L 35018. MEISENBURG. α-Cyanbutadiene polymerization. (Part of Rubber Reserve Rept 240) (Microfilm Reel 5841-1, PB 13321) Nov 1938. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 94 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Nov 26, 1938. The physical properties of polymeric α-cyanobutadiene are described. Furthermore, tests were made to obtain rubber-like products by addition of various agents. No effect was seen after addition of 20% of vinylmethylketone, styrene, nitrile, chlorobutadiene and methacrylic acid methyl ester. The latter greatly retards the polymerization. Addition of 50% of chlorobutadiene resulted in a non-hardening polymer which remained flexible. Addition of 0.8 and 2% of diproxid was without effect, whereas 4% of diproxide resulted in a neoprene-like, non-hardening product capable of being rolled. Dimeric α-cyanobutadiene can be easily obtained by heating α-cyanobutadiene for several hours in the presence of hydroquinone. Dimerization of α-methylstyrene cannot be stopped by hydroquinone, copper oleate or piperidine. Details are presented in an experimental section. In German.

PB L 35019. MEISENBURG AND SCHMIDT. α-Cyanobutadiene, β-phenylbutadiene, α-acetoxybutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 239) Dec 1938. 7 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 95 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Dec 21, 1938. Testing showed that α-cyanobutadiene emulsion polymers were non-vulcanizable, useless products. In the preparation of β-phenylbutadiene from phenylcyclohexene optimum conditions as to temperature (860°C) and width of the quartz-tube were studied. If β-phenylbutadiene stands for several days many dimers form. Emulsion polymerization in 10% sodium oleate emulsion leads to a soft, sticky polymer. In Emulphor-emulsion at room temperature α-acetoxybutadiene, prepared according to British patent No. 493106, can be easily polymerized into a product capable of being rolled. Details are presented in an experimental section. In German.

PB L 35020. ROSINSKY. Production of acetaldehyde by the Ansolvo-acid process in an installation for two tons per day at Knapsack. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 725) Jun 1939. 32 f. Price: Microfilm-$1.25 - Enlargement Print-$3.50
This report describes the experience with a pilot plant for the production of acetaldehyde by a process in which the absence of acetic acid reduces the cost of repairs, the absence of mercury reduces sanitary measures, and the catalyst is easy to handle. The operation is essentially as follows: Nitrogen is passed through about 70% zinc chloride solution, preheated to about 90°C, until the whole aggregate is free of oxygen and the temperature of the solution has risen to about 128-130°C. If the necessary temperature in the reaction tower is reached acetylene mixed with water vapor is introduced, entering the tower at a temperature of about 105°C. In one passage through the catalyst solution 15% of the entering gas is changed into acetaldehyde. One graph, five diagrams and eight pictures are attached. In German.

PB L 35021. SNEYKAL and others. On the simultaneous action of sulfur dioxide and chlorine on liquid hydrocarbons. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 429) Dec 1939. 31 f. Price: Microfilm-$1.25 - Enlargement Print-$3.50
This study from the I.G. Leunawerke on the simultaneous action of chlorine and sulfur dioxide on liquid hydrocarbons was suggested by U.S. patent 2,046,090. Chlorination of Leuna-middle oil in the presence of SO_2 did not give well defined monochlorohydrocarbons. But if the Cl, S and O containing products were treated with caustic alkali they yielded water soluble alkali salts with good wetting and detergent properties. Best starting materials for technical production of sulfochlorination products are oils with a maximum content of paraffinic hydrocarbons such as the hydrocarbons in "Kogasin I and II" (Fischer synthesis). Unsaturated and O-compounds still present have to be removed by an after-hydrogenation. Such a purified material is "Mepasin." Its production and the equipment necessary are described in detail. Further topics of research dealt with in this report are the influences of light, temperature, catalysts and solvents, polysulfochlorination, constitution and properties of the sulfochlorides, and the possibilities of reactions with aliphatic sulfochlorides. In German.

PB L 35022. MEISENBURG and others. β-phenylbutadiene rubber, Bunen-β-phenylbutadiene mixed rubber, Bunen-α-acetoxybutadiene mixed rubber, β-acetylbutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 238) Feb 1939. 10 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 96 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Feb 23, 1939. It deals mainly with testing of β-phenylbutadiene rubber. Although well capable of being milled it cannot or can only difficultly be vulcanized. Bunen-β-phenylbutadiene mixed rubber was also well capable of being milled, but its vulcanizates did not reach the values of Buna S and Buna N. Another method of preparing β-phenybutadiene is the reaction of lithium phenyl on vinylmethylketone, leading to 44.5% of 3-phenylbutenol. From this by dehydration with magnesium sulfate 76.5% of β-phenylbutadiene was obtained. In further work its polymers were found identical to the polymerized β-phenylbutadiene prepared from phenylcyclohexene. Bunen-α-acetoxybutadiene mixed rubber gave vulcanizates with unsatisfactory tensile strength values; worth noting however, was the high elasticity. Experiments to obtain β-acetoxybutadiene from cyclohexenylmethylketone did not succeed. Details are presented in an experimental section. In German.

PB L 35023. MEISENBURG. β-Phenylbutadiene, methyl vinyl pinacol, butadiene-oxalacetic ester. (Including summary of research work done by Dr. Meisenburg). (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 235 and 236) Apr 1939. 6 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 97 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Apr 4, 1939. Testing of β-phenylbutadiene polymers showed that they cannot be vulcanized but that they are capable of being milled. - With the help of coppered zinc, vinylmethylketone and isopropenylmethylketon could be reduced to the respective pinacols. However, no β, γ-divinylbutadiene could be obtained from vinylmethylpinacol. Experiments to copolymerize butadiene and oxalacetic ester were unsuccessful. Details are presented in an experimental section. In German.

PB L 35024. MEISENBURG. Acetate of α-hydroxy-α-vinylpropionate, phenylmethylbutadiene, chlorovinyl methyl ketone. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 234) Jun 1939. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50
This is report No. 98 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jun 7, 1939. The esterification of α-hydroxy-α-vinylpropionate with acetic anhydride in pyridine takes place very slowly; only after standing for several days at room temperature are fair yields of the esters obtained. α-phenyl-γ-methylbutadiene prepared according to Klages can be quantitatively polymerized in sodium oleate emulsion with or without ammonium persulfate. This polymer is not vulcanizable. Addition of 5 or 10% of α-phenyl-γ-methylbutadiene to butadiene gives good yields of the copolymer. Vinylmethylketone can be easily chlorinated to dichloroethylmethylketone. Splitting off of hydrochloric acid with dimethylaniline gives only a small amount of chlorovinylmethylketone; the result is even worse with hexahydrodiethylaniline. On standing chlorovinylmethylketone dimerizes; in emulsion it polymerizes into a product which crumbles on milling. Copolymerization of chlorovinylmethylketone and butadiene leads to a soft, short copolymer. Whereas lithium with bromobenzene leads quickly to lithium phenyl, the reaction of the lithium with cyclohexylbromide, cyclohexyliodide, and cyclohexenylbromide is very limited. Details are presented in an experimental section. In German.

PB L 35025. MEISENBURG. Bunen cold polymer, α-methylstyrene, cyclohexenyl methylethylene, cyclohexenyl methyl

ketone α-phenyl styrene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 233) Jul 1939. 4 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 99 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jul 5, 1939. Butadiene cold polymers cannot be degraded without degrading agents; they are degraded by styrophenol-linoleic acid. Thermal degradation of butadiene- α-methylstyrene mixed rubber took place somewhat more slowly than that of Buna S; its tensile test values and elasticity are higher than those of Buna S. - It was of interest to determine whether cyclohexenyl methylethylene or cyclohexenylethylketone should be added to the butadiene molecule. Similar to α-methyl styrene in sodium oleate solution cyclohexenylmethylethylene could neither be polymerized at room temperature nor in nitrogen at 60°C. Copolymerization with butadiene gives only unsatisfactory yields. Cyclohexenylmethylketone could not be copolymerized with butadiene. Copolymerization of phenylstyrene or diphenylstyrene with butadiene gives only unsatisfactory yields. Details are presented in an experimental section. In German.

PB L 35026. MEISENBURG. α-Methylstyrene, Bunen-α-phenylstyrene, Bunen-p-chlorostyrene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 232) Aug 1939. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 100 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Aug 5, 1939. At 60°C copolymerization of α-phenylstyrene with Bunen gave satisfactory yields. By the reaction of methyl iodide on p-chlorobenzaldehyde p-chlorophenylmethylcarbinol was prepared and then one mol of water separted with potassium bisulfate. p-Chlorostyrene can be easily copolymerized with Bunen(butadiene). Details are presented in an experimental section. In German.

PB L 35027. MEISENBURG. Bunen-cyclohexenylmethylethylene, phenylstyrene, trichlorostyrene, α-phenyl- γ-methylbutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 230) Sep 1939. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 101 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Sep 4, 1939. Emulsionpolymerization of Bunen-cyclohexenylmethylethlene was attempted at 60° and 55°C. As a large amount of unchanged cyclohexenylmethylethylene could be recovered by steam distillation obviously no copolymer had occured. Neither phenylstyrene alone nor together with styrene could be polymerized on heating. It oxidizes in the air with formation of formaldehyde. With the help of magnesium methyliodide the carbinol can be easily prepared from trichlorobenzaldehyde. The dehydration of trichlorophenylmethyl carbinol encountered considerable difficulty. Only the use of phosphorus pentoxide led to an unsatisfactory yield of trichlorostyrene which quickly became resinous. 37.7% of a soft copolymer were obtained when α-phenyl- γ-methylbutadiene was treated in 2% sodium oleate solution. Addition of 10% of Emulphor solution and 2% of Nekal BXG solution resulted also in small amounts of soft copolymers. Details are presented in an experimental section. In German.

PB L 35028. MEISENBURG. Bunen-methyl methacrylate; substitute for rosin; dimeric α-phenyl- γ-methylbutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 229) Oct 1939. 3 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 102 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Oct 4, 1939. Bunen-methyl methacrylate copolymerized in the ratio 50:50 and 20: 80, giving good yields in Nekal-emulsion. The former product is easily capable of being rolled; the latter crumbles on the rolls and produces a film only with difficulties. Addition of diproxid greatly decreases the yield. In order to obtain a substitute for rosin which is used as a rubber cement, benzalacetone was polymerized. Furthermore, heating of butadiene to 150-220°C leads to oils which can be used as adhesives and binders. Heat polymerization of styrene in the presence of various amounts of diproxid was also performed. If colorless monomeric α-phenyl- γ-methylbutadiene is heated to 200°C for a short time it changes into the viscous, yellow dimer. Details are presented in an experimental section. In German.

PB L 35029. MEISENBURG. Bunen-methyl methacrylate mixed rubber, butyl acrylate emulsion polymer, dimeric α-phenyl- γ-methylbutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 228) Nov 1939. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 103 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Nov 3, 1939. Bunen-methacrylate methyl-styrene mixed rubber and Bunen-isoprene styrene mixed rubber were easier to soften thermically than Buna S. Mention is made of a Bunen-vinylmethylketone mixed rubber, prepared with plenty of diproxid, and of a butyl acrylate emulsion resin with or without diproxid. In the experimental section a method for the preparation of dimeric α-phenyl- γ-methylbutadiene is described. In German.

PB L 35030. MEISENBURG. Bunen-methyl ester of methacrylate - Diproxid, distyrene, α-cyanobutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 227) Nov 1939. 2 f. Price: Microfilm-$1.00 - Enlargement Print-$1.50

This is report No. 104 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Nov 30, 1939. Even in the presence of diproxid quantitative yields of easily workable, adhesive copolymers of Bunen-methyl methacrylate can be polymerized if the amount of sodium pyrophosphate is reduced. In the experimental section three methods for the preparation of distyrene are presented. The adhesive properties of an acrylethyl ester polymer polymerized in Nekal-emulsion were not satisfactory. α-Cyanobutadiene which remained in a refrigerator for 6 months contained 59% of a monomeric and 23.9% of a resinous product. By heating α-cyanobutadiene can be easily changed into the dimer. In German.

PB L 35031. SNEYKAL and others. Obtaining capillary-active materials by the alkali saponification of the reaction products of sulfur dioxide and chlorine with saturated aliphatic hydrocarbons in light. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 441) Dec 1939. 35 f. Price: Microfilm-$1.25 - Enlargement print-$3.50

This report from the I.G. Leunawerke describes the preparation of a wetting agent from Mepasin which is a further hydrogenated Kogasin II (see PB 35021). The 260°-280° C. fraction of Mepasin is submitted to a half-sulfochlorination and then is subsequently saponified with 5% sodium hydroxide at 80°-90° C. The sulfonate solution is then concentrated by evaporation and vacuum dried at 100° C. This Mepasin sulfonate was tested as a detergent for wool and cotton, for its hardness resistance, power of foaming, its use in washing powders and soap. It can also be used as an emulsifying agent for the polymerization of butadiene and vinylchloride. Five graphs, one diagram, and several tables are attached. The material has been reproduced very poorly. In German.

PB L 35032. MEISENBURG. Dibenzylmethylal, 2,3-dimethylbutadiene-butyl acrylate mixed rubber, butyl acrylate polymer, "Pepren"-substitute. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 226) Jan 1940. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50

This is report no. 105 of the rubber laboratory of the I. G. Farbenindustrie A.G., Leverkusen, dated Jan. 6, 1940. It was intended to ascertain whether various formaldehyde-separating agents such as dimethylol urea, dimethylol thiourea, methylol carbazole, and dibenzylmethylol (formaldehyde acetate of benzyl alcohol) could stabilize thermally-softened rubber. The deformation value 1025 of β,γ-dimethylbutadiene-cold polymer, which was stored in a two-liter bottle for several years, could be thermally softened to 220 within 90 min. at 130° C. The heat polymer could

not be softened. Other properties of this compound are given in detail. Butyl acrylate polymer does not cement rubber as well as rosin. In connection with a request for a substitute of Pepren, the reaction product of phosphorus oxychloride on natural rubber, various softening tests were made with borofluoro acetic acid. In German.

PB L 35033. I.G. FARBENINDUSTRIE A.G. Acrylonitrile. (Patent applications with translations) (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 405; German Patent Application I 66 380 IVc/12o Jan 1940; I 67 617 IVc/12o Aug 1940) 1940-1945. 13 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The first application is an expansion of German patent application I 65 109 IVc/12o, and deals with a process for separation of acrylonitrile. With the help of acetylene-polymerizing catalysts, hydrocyanic acid is added to acetylene. Among the various byproducts divinylacetylene is difficult to remove. To obtain a divinylacetylene-free acrylonitrile, the gas mixture is washed with a solvent, preferably water, and the acrylonitrile separated by fractional distillation. The second application deals with a process for production of acrylonitrile from acetylene and hydrogen cyanide. For this purpose formamide or hydrogen cyanide and steam are reacted with acetylene at higher temperatures, preferably 2000-4500 C., in the presence of catalysts. The two applications are accompanied by English translations. In German and English.

PB L 35034. MEISENBURG. Cyclized 2,3-dimethylbutadiene rubber. α-cyanobutadiene heat polymer. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 225) Jan 1940. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 106 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated Jan. 27, 1940. Treatment of dimethylbutadiene cold polymer with borofluoroacetic acid or trichloroacetic acid yields a gasoline- and benzene-soluble resin with a high softening point. α-Acetoxybutadiene polymerizes in the cold into a polymer which becomes soluble only after mastication in benzene. Addition of borofluoroacetic acid to this solution colors it deep-blue and precipitates a dark product. Heat polymerization of α-cyanobutadiene, prepared by addition of hydrocyanic acid to vinylacetylene in the presence of benzoyl peroxide, gave a polymer which was almost insoluble in benzene. It was being tested for its plasticizing properties. In German.

PB L 35035. MEISENBURG. Distyrene, 1,3-diphenylbutane, 1,3-dicyclohexylbutane, di-p-chlorostyrene, dibenzyl, dipropenyl glycol diacetate, vinyl carbazole. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 224) Mar 1940. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 107 of the rubber laboratory of the I.G. Farbenindustrie A.G., Leverkusen, dated March 8, 1940. Equal parts of styrene and 55% sulphuric acid were centrifuged at a temperature of 145-150° C.; the distyrene was skimmed off and dried over potash. Di-p-chloro styrene is prepared in a similar way. 1,3 Cyclohexylbutane was prepared by hydrogenation of 1,3-diphenylbutane. Dibenzyl chloride was obtained by the reaction of benzyl chloride with magnesium, α-phenyl-γ-methylbutadiene by the reaction of magnesium bromethyl with benzalacetone. Reference is made to a source according to which dipropenylglycol diacetate can be prepared. Vinyl carbazole is polymerized by heating or with borofluoroacetic acid, toluene sulfonic acid chloride, trichloro acetic acid and phosphorus oxychloride. These vinyl carbazole polymers adhere well to iron but not to rubber. In German.

PB L 35036. PRAVDA. The production of synthetic materials in Germany. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 449) Mar 1940. 10 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This document contains the German translation of two Russian newspaper articles published in "Pravda" no. 360, Dec. 30, 1939, and no. 8, Jan. 8, 1940. These articles represent a nontechnical survey of the progress of German chemical industry in the fields of synthetic fuels, artificial wool (cellulose wool), synthetic rubber, fatty acids and plastics. In German.

PB L 35037. MEISENBURG. Distyrene chloropropionamide, polyacrylonitrile, β,γ-dimethylbutadiene heat rubber, tertiary butylbutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 223) May 1940. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 108 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated May 16, 1940. It first describes the experience with the production of distyrene in a pilot plant. A good yield of chloropropionamide was obtained from acrylonitrile cold saturated with hydrochloric acid. Various experiments to obtain high-polymeric amines from soluble polyacrylonitriles were unsuccessful. 2,3-Dimethyl butadiene-heat treated rubber adhered well to metal after exposure to ultraviolet light for 6 hours. Tertiary butyl butadiene was prepared according to American sources. Report will not reproduce well. In German.

PB L 35038. MÜHLHAUSEN, CORNELIUS. Preparation of vinyl methyl ketone. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 294) May 1940. 3 f. Price: Microfilm-$1.00 - Photostat-$1.50
Experiments were carried out to obtain vinylmethylketone by dehydration of 2,3 and 2,4 ketobutanol. Only dehydration of 2,4 ketobutanol gave good yields. Starting material for the preparation of 2,4 ketobutanol could be 1,3 butyleneglycol which is dehydrated in the presence of an all metal catalyst made of copper, preferably a mixture of copper and copper oxide. In German.

PB L 35039. MEISENBURG. Acrylamide, polyacrylonitrile butyl acrylate, polyvinyl methyl ketone butyl acrylate, ester of polycyano sorbic acid, butadiene heat polymers. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 222) Jun 1940. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 109 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated June 20, 1940. A good yield of acrylamide can be obtained from β-chloropropionamide in alcoholic solution with potassium carbonate. Polyacrylonitrile is soluble in hot aniline; the copolymer of acrylonitrile and butyl acrylate is soluble in cold aniline. Bumping in the heat polymerization of acrylonitrile was reduced if the reaction was performed in the presence of benzene with stirring. Polymerization of vinyl methyl ketone and butyl acrylate produced a copolymer soluble in hot alcohol. Experiments are underway to transform this copolymer of α-cyano sorbic acid ester with piperidine was tried. Heat polymerization of butadiene was performed with and without benzoyl peroxide. Thermal softening was better when no benzoyl peroxide was used. The solutions had no satisfactory adhesive power. In German.

PB L 35040. MEISENBURG. Methylene butanolone, acrylamide, ethyl ester of ethylxanthogenic acid, alcohol soluble polyvinyl methyl ketone, sorbonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 221) Sep 1940. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 111 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Sept. 3, 1940. A good yield of methylene butanolone is obtained if vinylmethylketone in alcoholic solution is condensed with paraformaldehyde in the presence of traces of sodium ethylate. (For a correction of this statement see PB 35041). Acrylamide was prepared from β-chloropropionamide with acrylonitrile as starting material. Ethylester of ethylxanthogenic acid is no regulator for the butadiene-copolymerization. In butyl acetate or 70% alcohol vinylmethylketone can be polymerized into a product which is soluble in 70% alcohol. Sorbonitrile yields liquid polymers by means of heat polymerization. In German.

PB L 35041. MEISENBURG. Ethoxymethylacetone, ethoxymethylol butanolone, β-ethoxypropionitrile, β-ethoxy, α-methylol propionitrile. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 220) Nov 1940. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 112 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Nov. 4, 1940. Reaction of paraformaldehyde with vinylmethylketone gives ethoxymethylbutanolone and not methylene butanolone as erroneously stated in report 111 (see PB 35040). As byproduct ethoxymethylacetone is obtained. Ethoxymethylbutanolone can be distilled without change under normal pressure. Various reactions of ethoxymethylacetone are described in the experimental section. β-ethoxypropionitrile and β-ethoxy-α-methylol propionitrile are obtained by addition of one mol of alcohol and one mol of alcohol and formaldehyde to acrylonitrile. Both reaction products are further treated with potassium bisulfate. In German.

PB L 35042. MEISENBURG. Acetylated dimethylolacetone, polyacrylamide, Bunen-acrylamide mixed rubber. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 219) Dec 1940. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 113 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Dec. 3, 1940. It starts with supplementary statements on properties of ethoxymethylacetone and ethoxymethylol butanolone mentioned in report 112 (see PB 35041). In order to avoid separation of dimethylol acetone into ketone butanol and formaldehyde which occurs in distillation, acetylation of the dimethylol acetone was tried, but with little success. In the reaction of lead tetraacetate with 2,3-dimethylbutadiene two acetate groups were added to a double bond; from this compound one mol of acetic acid was separated with potassium bisulfate. Heat polymerization of acrylamide in boiling xylene formed a polymer which was worked up into a water-soluble powder. This polymer was said to be a good sizing agent. No results were obtained with experiments for the preparation of a butadiene-acrylamide mixed rubber. In German.

PB L 35043. MATZ, WERNER. Material exchange in the washing of binary mixtures. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 430) 1940. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a reprint from "Zeitschrift des Vereins Deutscher Ingenieure, Beiheft Verfahrenstechnik" 1940, no. 4, pp. 118-123. An aqueous solution of acetic acid (6% by weight) was washed in counter-current with benzene or methylisobutylketone in a glass-column without packings (spray column) and with packings (packed column). The heavier acid phase entered the column at the top, the lighter solvent at the bottom. The process of washing was studied on single drops in the spray column without packing and in the same column with packings. All experiments were made at temperatures between 22-28° C. In order to evaluate the results considerations on the mixing gap in the three component system diagram for ternary mixtures were taken into account. The principles of thermodynamics were applied to derive laws of general validity for the washing. In German.

PB L 35044. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Third note on acrylic compounds. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 589) Dec 1940. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes the preparation of methyl methacrylate which is performed in three steps. In step 1 acetone cyanohydrin is mixed with 100% sulfuric acid at temperatures between 70 and 85° C., preferably 76° C. In step 2 (reaction to methacrylamide sulfate) the temperature is raised to 138-140° C. For step 3 (esterification), a column packed with Raschig-rings is used. This column is supported by a sump kettle through which superheated alcohol vapor is introduced. Details on equipment, mixtures, and yields are discussed in the experimental section and presented in a table. In German.

PB L 35045. MEISENBURG. Polyacrylamide, Bunen-acrylamide, Bunen-methylene butanolone, methyltetrahydrobenzaldehyde. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 218) Jan 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 114 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jan. 3, 1941. Experiments with the polymerization of acrylamide yielded the following results: (1) Acrylamide dissolved in glycolmonoethylether and heated to 90-100° C. polymerizes quantitatively; (2) Acrylamide dissolved in benzene does not polymerize even if boiled for hours, whereas methacrylamide in benzene solution, after heating, polymerizes into an insoluble copolymer; (3) Acrylamide polymerizes quantitatively if boiled for hours in benzene solution in the presence of 0.05% benzoylperoxide. Methylenebutanolone does not copolymerize with butadiene in acid emulsion. Crotonaldehyde and butadiene form methyltetrahydrobenzaldehyde in fair yield. In German.

PB L 35046. I.G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN, GERMANY. Process for production of acrylonitrile. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 404; German Patent Application I 68 635 IVc/12o Jan 1941) 1941-1945. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.00
This document is a copy of a Ger. patent application. Use of catalysts containing compounds of monovalent copper result in better yields of acrylonitrile in the catalytic reaction of hydrogen cyanide with gaseous acetylene. Such substances include cuprous chloride, cuprous bromide, cuprous iodide or cuprous cyanide. It is advantageous to use them together with one or several salts of alkali metals, ammonium or substitution products of ammonium with strong acids. Additional use of reducing agents such as stannous chloride, hydrazine chloride or sodium sulfite will keep the copper in monovalent form. In German, with English translation.

PB L 35047. MEISENBURG. Controlled polymerization of resins; polyacrylamide. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 207) Jan 1942. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 125 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jan. 27, 1942. The following agents proved to be good polymerization regulators: (1) The addition product of para-thiocresol and butadiene; (2) ditolyl disulfide and octadecyl mercaptan. Various experiments were carried out on the polymerization of acrylamide with benzoyl peroxide. Of importance were the quantities of benzoyl peroxide used and the presence of acids or bases. However, all these polymers were inferior to those of absolutely pure acrylamide in the presence of traces of potassium persulfate. Details are presented in an experimental section. In German.

PB L 35048. MEISENBURG. Polyacrylamide, Bunen-methylene butanolone, polyvinyl methyl ketone, cyclohexenyl methyl ketone. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 217) Jan 1941. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 115 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jan. 30, 1941. The polymerization of acrylamide in organic solvents is greatly influenced by the kind of solvent used. No polymerization results even after boiling for several hours if chlorobenzene is used as solvent unless benzoyl peroxide is added. Besides chlorobenzene, benzene, glycol ether, xylene, and a mixture of glycol ether and xylene were used. Polyacrylamide prepared in this mixture proved to be the best sizing agent among other samples tested. Such polyacrylamides are also more soluble in water than those prepared in benzene and chlorobenzene. Methylene butanolone in Emulphor-emulsion can be copolymerized with butadiene. Vinylmethylketone in aqueous solution polymerizes into a rubberlike product. The products have greater plasticity if the polymerization is performed in the presence of diproxid. Condensation of vinylmethylketone with butadiene can be performed in a bomb-tube only. In German.

PB L 35049. MEISENBURG. Polyacrylamideformaldehyde, controlled polymerization of resins, poly-α'-cyanobutadiene. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 206) Feb 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 126 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Feb. 25, 1942. Addition of small amounts of formaldehyde to polyacrylamide and acrylamide resulted in the production of transparent, colorless films. Greater amounts of formaldehyde made the films turbid. Other experiments deal with the use of diprocid as a regulator in the polymerization of vinylmethylketone, butyl acrylate, and styrene. Unless polycyanobutadiene is soluble in tetrahydrofuran, tetralin or cyclohexanol it cannot be hydrogenated. It was not possible to dissolve poly-α'-cyanobutadiene in these three solvents. In German.

PB L 35050. MEISENBURG. Polyacrylamide. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 216) Feb 1941. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 116 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Feb. 25, 1941. Polyacrylamide was polymerized in water, glycerol, and water and glycerol. If instead of glycerol trimethylol propane was used for the polymerization soft and wax-like polymers were obtained. The polymerization of acrylamide in organic solvents depends greatly on its purity. In German.

PB L 35051. MEISENBURG. Polyacrylamide, β-styryl-butadiene, Bunen-furfuryl alcohol, polymerization in solvents. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 215) Mar 1941. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 117 of the rubber laboratory of the I.G Farbenindustrie A.G., dated March 26, 1941. In the presence of water and potassium persulfate, acrylamide in water polymerizes into an elastic product. Blister formation can be avoided if the polymerization is performed without water or with only small amounts of potassium persulfate. In the first case the results are soft, water soluble polymers which harden when stored; in the second case, solid polymers which are insoluble in water. Various experiments are described in which the polymerization was performed in an iron tube. On account of the strong heat of reaction which develops in the polymerization of acrylamide in the presence of potassium persulfate, tests were made to eliminate it or reduce the amounts used. Preparation of β-styrylbutadiene by reaction of lithium styryl with vinylmethylketone was tried, however, carbinol and β-styryl butadiene could not be isolated. Experiments on the copolymerization or the condensation of furfuryl alcohol with butadiene were not successful. Presence of solvents such as methylene chloride, carbon tetrachloride, ethylene chloride, and chlorobenzene delayed the polymerization of butadiene for ten days. In German.

PB L 35052. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Description of the aldehyde plant. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 772) 1945. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a description of the various installations of the Hüls plant. In the aldehyde synthesis (1), consisting of seven systems, acetylene is reacted to a 7% acetaldehyde with the help of a mercury catalyst. As byproducts, acetic acid, acetone, diacetyl and crotonic aldehyde are obtained. In the four columns of the aldehyde-distillation (2) the crude aldehyde is refined to a pure aldehyde. In the installation for the recovery of acetylene (3) the residual gas of synthesis and distillation which contains about 70% of acetylene is purified. In the installation for the regeneration of the acid catalyst (4) ferrosulfate is oxidized with nitric acid to ferric sulfate. A large flow sheet is included. In German.

PB L 35053. , KEHLEN. Changes and improvements in the aldehyde plant. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 437) 1938-1941. 24 f. Price: Microfilm-$1.00 - Enlargement print-$2.50
This document is largely unreadable. It originated at the Buna Werke G.M.B.H., Schkopau, and contains several flow diagrams which are clearer than the text itself. Among the substances mentioned are crotonaldehyde, acetaldehyde, and paraldehyde. In German.

PB L 35054. MEISENBURG. Bunen-methylene butanolone, polyacrylamide, Bunen-isopropenyl methyl ketone. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 214) Apr 1941. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 118 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Apr 26, 1941. In the copolymerization of butadiene with methylene butanolone addition of about 20% of methylene butanolone results in products with good benzene resistance, addition of about 40% of methylene butanolone results in well workable products with excellent benzene resistance. By addition of substances such as acrylonitrile or vinylmethyl ketone the tensile strength might be improved. Soft wax-like products, to be tested for their plasticizing properties, were obtained in the polymerization of acrylamide in trimethylol propane, hexane triol and triglycol. Atmospheric oxygen is detrimental to the polymerization of acrylamide in solvents. If the polymerization is performed with stirring, the yield is 12%, without stirring 88%, and with introduction of nitrogen, 63%. A quantitative yield could be obtained in the polymerization of isopropenyl methyl ketone with Bunen and "esteramine." In German.

PB L 35055. WEISSBACH and FRANKE. (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Third note on obtaining hydrocyanic acid from acetylene produced by the electric arc process: The further treatment of water from the separation by wet carbon. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 585) Apr 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Twice during its production, acetylene gas comes in contact with water (1) in the separation by wet carbon and (2) in the low pressure gas purification. Acetylene is also found in solution with the hydrocyanic acid. The water of (1) contains about 2/3 of the whole hydrocyanic acid produced. Experiments showed that in the degassing of this water 57.4-58.6% of hydrocyanic acid was separated by cooling. In German.

PB L 35056. WEISSBACH and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Fourth note on obtaining hydrocyanic acid from acetylene produced by the electric arc process: Suggestions for the separation of hydrocyanic acid in the operation. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 584) Apr 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In order to obtain a maximal yield of hydrocyanic acid from the water of the carbon settling basin the degasser must be heated to 100° C. Three ways are suggested for further treatment: (1) The water of the settling basin and the water from the low pressure washing are degassed jointly. The waste gas is concentrated in a second water washing, and the hydrocyanic acid separated in a second degassing. The high consumption of steam necessary for the degassing of such large amounts of water is disadvantageous. (2) The water washing of the low pressure purification is performed twice. First, hydrocyanic acid plus small quantities of acetylenes is washed with as little water as possible at 50-70° C. Thereafter the harmful acetylenes are removed with large amounts of cold water. (3) If the complete removal by washing requires too much steam, separation can be achieved by conversion to sodium cyanide. In German.

PB L 35057. MEISENBURG. Polyacrylamide, Bunen-acrylamide, polymethacrylamide, Bunen-methylene butanolone nitrile mixed rubber. (Part of Rubber Reserve Microfilm Reel 58M1-1, PB 13321) (Rubber Reserve Rept 212) May 1941. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 119 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated May 28, 1941. Valves made

from polyacrylamide in which glycerol was replaced by trimethylolpropane up to 50% were less elastic than those manufactured from polymerization products in pure glycerol. The emulsifying agent, Emulphor, does not facilitate the copolymerization of butadiene-methylene butanolone. In boiling xylene methacrylamide polymerizes into a water soluble, powdery product; in glycerol and a small amount of water it polymerizes into solid products which are less elastic than acrylamide polymers. Polymerization of methacrylamide takes place at 60-70° C. without addition of persulfates. Butadiene methylene butanolone-vinylmethylketone mixed rubber is not particularly resistant to benzine and benzene. Butadiene-methylene butanolone-acrylonitrile mixed rubber however shows excellent resistance to benzine and benzene In this regard it is superior to Perbunan. The yield of the polymerization of butadiene-methylene butanolone in sodium emulsion is not satisfactory. In German.

PB L 35058. MEISENBURG. Polyacrylamide, polymethacrylamide. Bunen-methylene butanolone-nitrile, isopropenyl methyl ketone. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 211) Jun 1941.
3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 120 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Jun 25, 1941. In continuation of experiments with acrylamide-glycerol polymers, glycerogen was used instead of glycerol. The reaction was less violent than that in glycerol. Without addition of persulfate a strongly adhesive product forms; with persulfate the products are soft and slightly elastic. Reduction of the amounts of glycerogen used does not yield more solid products. Water soluble polymers were obtained in the polymerization of methacrylamide in glycol monomethylether. Their sizing effect does not compare favorably with that of acrylamide polymers. In glycerol, methacrylamide polymerizes into white, wax-like products. Other conditions studied are polymerization in glycerol in the presence of water or formaldehyde, with or without potassium persulfate and polymerization in glycerogen. Another test with butadiene-acrylonitrile-methylene butanolone mixed rubber confirmed the good resistance to benzine and benzene. Butadiene-isopropenyl-methylketone copolymer was prepared for further research work. In German.

PB L 35059. WEISSBACH and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Fifth note on acrylic compounds: The reaction of acrylonitrile with sulfuric acid. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 582) Jul 1941. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Experiments were carried out on the preparation of acrylic acid and its esters with acrylonitrile as starting material. Using the apparatus for the preparation of methacrylic ester from acetone cyanohydrin, 70% of acrylic ester was obtained. The reaction of acrylonitrile must be a quantitative one, because unreacted acrylonitrile cannot be separated from the ester. For that reason the reaction with sulfuric acid was studied. In a specially designed reaction vessel (see the attached diagram) acrylonitrile and sulfuric acid in the molecular ratio 1:1.35 were reacted. If 86% sulfuric acid is used, only 0.5-1% does not react. In German.

PB L 35060. FRANKE and THIELE. (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reaction of tetrahydrofuran with hydrocyanic acid, laboratory note no. 1. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 580) Jul 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a short report on experiments to obtain nitriles by the reaction of tetrahydrofuran with hydrocyanic acid. Two different catalysts were compared (1) Andrussow's aluminum oxide catalyst and (2) Catalyst 8062, a mixture of aluminum oxide and 5% chromium oxide. Best results were obtained with Andrussow's catalyst at a temperature of 425° C. In German.

PB L 35061. FRANKE and THIELE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reaction of tetrahydrofuran with hydrocyanic acid, laboratory note no. 2. The hydrolysis of allyl acetonitrile to the acid. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 579) Jul 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A yield of 65% was obtained when preheated 75% sulfuric acid was used. 140-150° C. were reached as maximal temperature of reaction. In German.

PB L 35062. MEISENBURG. Polyacrylamide, polymethacrylamide, ethylester of ethylxanthogenic acid, isopropenyl methyl ketone. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 210) Jul 1941.
2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 121 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated July 30, 1941. Acrylamide prepared in a pilot plant, did not exhibit as good elasticity as that prepared at the laboratory. Methacrylamide heated with double the amount of hexanetriol gives a paste-like product. Heated with the same amount of hexanetriol, it gives a solid product which becomes paste-like after addition of hexanetriol. At 60° C., methacrylamide dissolves in glycerol, glycerogen, trimethylolpropane, and hexanetriol only in the ratio 1:1.5 or 1:2; in formamide it dissolves in the ratio 1:1. Heated with the same amount of formamide to 60° C., a clear solution results. Further heating causes separation of a flocculent product. On heating to 116° C. a weak reaction starts at 109° C.; the flocculent product then dissolves and the solution solidifies. Similar experiments under changed conditions are also described. Ethylxanthogenic acid ethylester was not found to be a polymerization regulator. In German.

PB L 35063. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reaction of tetrahydrofuran with hydrocyanic acid, laboratory note no. 3. The reaction with furan, dihydrofuran and dimethyltetrahydrofuran. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 578) Aug 1941. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
After a description of the apparatus used, the technical details of the reactions such as composition of the mixtures, temperature, catalyst, yields, etc., are presented. In German.

PB L 35064. I.G. FARBENINDUSTRIE A.G., LEVERKUSEN, GERMANY. Process for production of acrylonitrile. (Patent application with translation) (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 403; German Patent Application I 70330 IVc/12o Aug 1941) 1941-1945. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This German Patent application I 70330 IVc/12o, dated Aug 23, 1941, is another addition to Ger. Patent Applications I 65 109 and 66 380 (see PB 35033). With the help of acetylene polymerizing catalysts, hydrocyanic acid is added to acetylene. If the reaction is performed in the presence of monovinylacetylene, no more monovinylacetylene will form as byproduct. The unreacted acetylene which contains all the byproducts is recycled. An English translation of the German original is attached. In German and English.

PB L 35065. MEISENBURG. Polyacrylamide. (Part of Rubber Reserve Microfilm Reel 58Ml-1, PB 13321) (Rubber Reserve Rept 209) Sep 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 122 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated Sept. 2, 1941. Method of preparation and kind of polymerization greatly influence the appearance of acrylamide polymers. Acrylamide, derived from β-chloropropionamide which was recrystallized in acetic ether, gave a better polymer after recrystallization in benzene than that recrystallized in chloroform. A small layer of unchanged amide cole crystallized on all polymers. The surface of polymers prepared in the test tube under nitrogen becomes resinous. Without addition of potassium persulfate, the reaction takes place at 112 and 150° C. and soft polymers form. Similar polymers form if potassium persulfate is used without water. Products obtained from the various polymers with para-formaldehyde do not differ greatly. The

products could be improved by drying. All these polymers and their para-formaldehyde derivatives are hygroscopic. The tensile strength values deteriorate with increasing absorption of water and become constant with a water content of 12-15% based on glycerol and amide. Polymers with a higher content of acrylamide or a lower content of glycerol and 12-15% water were tested and gave satisfactory results. In German.

PB L 35066. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reaction of tetrahydrofuran with hydrocyanic acid, laboratory note no. 4. The isolation of adipodinitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 576) Nov 1941. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In the reaction of tetrahydrofuran with hydrocyanic acid considerable amounts of neutral substances, boiling at higher temperatures, are obtained in addition to allyl acetonitrile. After separation of these substances from the crude mixture of reaction, the substances which boil at lower temperatures, including the allyl acetonitrile are fractionally distilled at temperatures up to 155° C. under normal pressure. The residue is separated into various fractions (water-jet vacuum). From the 120-145° C. and 145-190° C. fractions, extractions with water are made. A reddish-brown oil results which is fractionally distilled in vacuum. 5% of adipodinitrile was obtained in this reaction. In German.

PB L 35067. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reaction of tetrahydrofuran with hydrocyanic acid, laboratory note no. 5. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 575) Nov 1941. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a short report on the reaction of butadiene with hydrocyanic acid in the molecular ratio 1:4. The following catalysts were studied: Activated charcoal alone or with addition of potassium cyanide and potassium-cadmium cyanide, aluminum oxide (Andrussow) alone and with addition of potassium cyanide, and cuprocyanide. There was no reaction between butadiene and hydrocyanic acid. The experiments resulted, however, in the formation of lower polymers of butadiene, especially the two vinylcyclohexenes. In German.

PB L 35068. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Supplement to laboratory note no. 2. The hydrolysis of allylacetonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 577) Nov 1941. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is the continuation of work previously reported (see PB 35061). Whereas alkaline hydrolysis of the nitrile yields pure allyl acetic acid, acid hydrolysis results in a mixture of allylacetic acid and γ-valerolactone. If the temperature is kept sufficiently high and the acid concentration strong, the lactone alone is obtained. Methods for the preparation of the two components are described in detail. In German.

PB L 35069. MEISENBURG. β-Chlorpropionamide, polyacrylamide, butadiene-isopropenylmethyl ketone mixed rubber. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 208) Dec 1941. 2 f. Price Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 123 of the rubber laboratory of the I.G Farbenindustrie A.G., dated Dec. 30, 1941. β-Chloropropionamide was prepared by the reaction of ammonia with β-chloropropionyl chloride. Various experiments to obtain good acrylamide polymers in glycerol without use of potassium persulfate gave unsatisfactory results. Diproxid retards the copolymerization of butadiene and isopropenylmethylketone. In German.

PB L 35070. I.G. FARBENINDUSTRIE A.G., LEVERKUSEN, GERMANY. Process for preparation of unsaturated nitriles. (Patent application with translation) (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 402; German Patent Application I 71 392 IVc/12o Jan 1942) 1942-1945. 8 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a draft of a German patent application. Reaction of hydrocyanic acid with acetylene or its substitution products, yields unsaturated nitriles if these components are brought into contact with liquefied, anhydrous copper salts of strong acids at temperatures below 200° C. An English translation of the German original is attached. In English and German.

PB L 35071. COENEN. Comparative testing of ester samples. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 481) Mar 1942. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a report on chemical tests on two esters which are identified only as "O" and "D". These tests were made for the German army. In German.

PB L 35072. MEISENBURG. β-Vinylacrylamide, ethylene trithiocarbonate. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 205) Mar 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 127 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated March 21, 1942. In the reaction of hydrochloric acid with α-cyanobutadiene, 1 mol of hydrochloric acid is added and the CN-group converted into the $CONH_2$ group. From benzene this halogen containing amide forms crystals with a melting point of 98° C. In hot alkaline solution this halogen containing amide is changed into the halogen free amide with the help of potash. From chloroform, this product forms crystals; with a melting point of 128°. Alcoholic sodium ethylate solution reacted with this halogen containing amide at low temperature gave also a product with a melting point of 128° C. With glycerol this product formed an elastic polymer which was insoluble in water and organic solvents. Ethylene trithiocarbonate was tested as a polymerization regulator. It retarded the chlorobutadiene emulsion polymerization. An unsatisfactory yield of a soluble polymer was obtained, only after addition of 4% ethylene trithiocarbonate. In German.

PB L 35073. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The preparation of allylacetonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 572) Mar 1942. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes experiments on the preparation of allylacetonitrile. Allylcarbinol is used as starting material from which allyl methyl chloride is easily obtained. This in turn is reacted with cyanide. A method for the preparation and reduction of levulin nitrile is also presented. In German.

PB L 35074. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reactivity of the double bond in allyl carbinol and its derivatives. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 568) Apr 1942. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Purpose of the experiments was to use allylcarbinol for the preparation of organic intermediates. The experiments showed that the double bond of the allyl carbinol reacts only with strongly active components (chlorine, hypochlorous acid). In German.

PB L 35075. BERNDT, W. (I.G. HÜLS). 2-Ethyl-1,3-hexanediol prepared from crotonaldehyde. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 439) May 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A method is described for the hydrogenation of butyraldol with crotonaldehyde as starting material. The document will not reproduce well. In German.

PB L 35076. WEISSBACH and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The oxidation of 1,6-hexanediol to adipic

acid. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 565) May 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Instructions are given for the oxidation of a concentrated aqueous solution of hexanediol with 65% nitric acid at 5-10° C. If the reaction is performed at higher temperatures the hexanediol is decomposed to glutaric and succinic acid. In German.

PB L 35077. I.G. FARBENINDUSTRIE A.G. Table of data on some chemicals. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 386) n.d. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This table lists chemical composition, testing results, price, and patent situation for eight wetting agents. In German. Table may not reproduce well.

PB L 35078. MEISENBURG. β-Vinylacrylamide, β,γ-dicyanobutadiene, diethylaminobutadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 203) May 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is report no. 128 of the rubber laboratory of the I.G. Farbenindustrie A.G., dated May 26, 1942. In storage, β-vinylacrylamide becomes insoluble in chloroform. β-vinylacrylamide-glycerol polymers were capable of being rolled; with formaldehyde they were changed into elastic products which were insoluble in benzine and benzene. Diacetylcyanohydrin was prepared by the reaction of hydrocyanic acid with diacetyl in the presence of traces of potassium cyanide. If this product is reacted with acetic anhydride and conc. sulfuric acid a compound results which melts at 167-168° C. It was not possible to obtain β,γ-dicyano butadiene by dehydration or removal of acetic acid. α-Diethylaminobutadiene was prepared by the Langenbeck-method. It was not possible to polymerize it with butadiene. As diethylaminobutadiene and its homologues are poisonous, they cannot be used as vulcanization accelerators. In German.

PB L 35079. THIELE and FRANKE (CHEMISCHE WERKE HÜLS, G.M.B.H.). The isolation of α-aminopyridine obtained in the reaction of hydrocyanic acid with tetrahydrofuran. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 562) Jun 1942. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The crude reaction product is separated into a neutral and a basic portion. In the distillation of the basic portion which contains chiefly pyridine, basic oils with boiling points up to 280° C. are obtained. The 200-240° C. fraction, a yellow, slightly darkening oil, yields a picrate with ethereal picric acid. This picrate is a derivative of α-amino-pyridine. The base is freed from the recrystallized substance with hot concentrated caustic potash solution. In German.

PB L 35080. PIER, MATTHIAS. The road to German gasoline. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 428) Jul 1942. 9 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This document is a report on a July 23, 1942 broadcast, which reviewed, in a popular manner, the developments that had made possible the production of synthetic gasoline by the hydrogenation of coal. The broadcast stressed the importance of this process for the prosecution of the war and for making Germany independent of foreign countries. In German.

PB L 35081. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reactability of double bonds. (With translation). (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 557) 1942-1945. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Results of earlier experiments with the double bond of aliphatic compounds. Butylamino propionic, methyl ester was prepared from 90g. of methyl acrylate which was heated with 0.1g. hydroquinone and 73 g. butylamine. Acrylonitrile, diluted in ether, was treated with hydrogen chloride to yield chloropropionitrile. This reacted with potassium cyanide to form succinotrinitrile. Levulinonitrile was prepared by the addition of hydrocyanic acid to vinylmethyl ketone. Hydrocyanic acid, added to acrylic ester, acrylonitrile and methacrylic ester yielded the corresponding nitriles. By the catalytic reaction of butanediol with hydrocyanic acid, adiponitrile was obtained. The method however, is not described in detail. In German, with English translation.

PB L 35082. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Processing of tetramethylhexadiynediol. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 556) Aug 1942. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The product is obtained as a solid potassium salt of the diynediol, by the reaction of diacetylene with acetone in concentrated potassium hydroxide. A simple method for its isolation was sought, but has not, as yet, been found. Results of various experiments are tabulated. Most promising was the use of acetic acid which produces the soluble potassium acetate. The use of higher ketones or aldehydes decreases the solubility of the diynediol in water, so that extraction may become unnecessary. In German.

PB L 35083. SEEMANN and FRANKE. The dehydration of dimethyldecadiynediol. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 555) Aug 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The reaction formerly described with diacetylene diglycols having tertiary hydroxyl groups, is here applied to substances with secondary hydroxyl groups. Its application is more difficult in this case. The method is described. The report reproduces poorly and some words are completely illegible. In German.

PB L 35084. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The reaction of alkoxymova with methylolamine. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 552) Sep 1942. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The reaction of methanolamine with "alkoxymova" (alkoxyvinylacetylene) is described, the product analyzed and the yield compared with the theory yield. This frame is largely illegible. In German.

PB L 35085. I.G. FARBENINDUSTRIE A.G. The preparation of 1,8 octanediol-diethylether from ethoxy-vinylacetylene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 622) Dec 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Cuprous chloride, ammonium chloride and conc. ammonia are reacted with ethoxyvinylacetylene. The light yellow copper compound separates. Oxygen is then introduced. After extraction with acetone, drying with potassium carbonate, and distillation a brownish-yellow oil is obtained. This crude product is dissolved in methanol and hydrogenated at 30° C. under 100 atm. pressure using a Raney-nickel catalyst. Report will not reproduce well. In German.

PB L 35086. COENEN (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Analysis of hydrocarbons by fractionation. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 473) Dec 1942. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Three different fractionating columns, the Stock apparatus, the Podbielniak column and the Leuna column, are compared as to their efficiency in separating gas mixtures of C_2, C_3, and C_4 olefins and paraffins. Three graphs are attached. In German.

PB L 35087. POHL, H. and KORTEN. Gas obtained in the thermal refining of coal and recent developments in the field of gasification (2) Large scale watergas production for chemical syntheses. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 438) 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50

The above items were published in "Brennstoff-Chemie" vol. 23, no. 17, 1942, pp. 205/6 as abstracts of the following sources: "Öl und Kohle," vol. 38, 1942, pp. 589/601, 617/624, 665/667, 685/690, 721/727 and 749/765 and "Gas- und Wasserfach," vol. 85, 1942, pp. 200/202. In German.

PB L 35088. WICKBOLD (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The determination of free sulfuric acid in contact acid. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 466) Feb 1943. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This method permits the direct titration of free sulfuric acid in the presence of iron. The divalent iron is changed into the trivalent form by oxidation with potassium persulfate without changing the content of free sulfuric acid. All the trivalent iron is precipitated as iron fluoride complex. The solution, now free from iron, is titrated with sodium hydroxide. Detailed instructions for the determination are presented. In German.

PB L 35089. SCHMAUSS. Cyanoalkyl esters of acrylic acid. (With translation). (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 187) 1943-1945. 9 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Cyanoalkylesters of acrylic or methacrylic acid can be prepared by the reaction of (1) alkali- or alkaline earth acrylates with chloroalkyl cyanides, (2) acrylic anhydride with cyanohydrins, (3) acrylyl chloride with cyanohydrins, (4) chloropropionic acid esters and cyanohydrins to β-chloropropionic acid esters by removal of HCl. The HCl separation can be achieved (a) by heating with sodium acetate and (b) by use of a catalyst mixture consisting of activated carbon and zinc- or barium chloride. In German with English translation.

PB L 35090. COENEN (CHEMISCHE WERKE, HÜLS, G.M.B.H.). An apparatus for the fractionation of gaseous hydrocarbon mixtures which have a narrow boiling range. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 462) Mar 1943. 12 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A column furnished with a rotatory metal band and working with a separating effect of 20 theoretical plates is described with the help of which mixtures such as propane and propene or monovinylacetylene and diacetylene can be separated. Three tables, one diagram and three graphs are attached. In German.

PB L 35091. BECKER. Conference on cellulose esters of Leuna-carboxylic acids. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 133) Aug 1943. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a short outline of various projected tests to be carried out with the cellulose esters of carboxylic acids prepared at the Dormagen plant. The conference was held at I.G. Leverkusen on August 25, 1943. The document will not reproduce well. In German.

PB L 35092. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Meeting of the cellulose chemists of Lower-Silesia. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 614) Sep 1943. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a short note on the above meeting, which took place in Breslau on September 8, 1943. Two lectures are mentioned, the one surveying the composition of various plants from which cellulose is obtained and the best processes for the production of cellulose, the other discussing the processes of pre-hydrolysis (fermentation of the plant sugars). In German.

PB L 35093. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Condensation of 1-diethyl amino -2,4-pentadiyne ("Monamindia") carbonyl compounds in 50 percent caustic potash solution. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 613) Sep 1943. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
1-diethylamino-2,4-pentadiine is reacted with isobutyraldehyde and yields the amino diyne-ol, 1-diethylamino-7-methyl-2,4-octadiyn-6-ol. Other aminodiynols are obtained by reaction with acetone or cyclohexanone. In German.

PB L 35094. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Diene syntheses with diyne-compounds as dienophilic component. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 611) Sep 1943. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The reaction of 2,7-dimethyl-3,5-octadiyn-2,7-diol with cyclopentadiene results in a moderate yield of 2,2'-diisopropanol-(3,6,3',6'-bis-endomethylene)-3,6,3',6'-bis-dihydrodiphenyl. A similar reaction is described for cyclopentadiene and the aminodiynol E2B which is 1-diethylamino-7-methyl-2,4-octadiyn-6-ol. Two fractions are obtained one of which is the addition product of 1 mol of cyclopentadiene and 1 mol of the aminodiynol. In German.

PB L 35095. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The addition of benzylmercaptan to "monamindia" 1-diethylamino-2,4-pentadiyne and "diamindia" 1,5-bis (diethylamino) 2,4 pentadiyne. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 554) Sep 1943. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Benzyl mercaptan condenses easily with 1-diethylamino-2,4-pentadiyne in methanol solution without a condensing agent. The product is supposedly 1-diethylamino-4-penten-2-yne-5-benzylthioether. A condensing agent must be used for the reaction of benzylmercaptan with 1,5-bis-diethylamino-2,4-pentadiyne. The product is supposedly 1,6-bis-diethylamino-4-hexen-2-yne-5-benzylthioether. In German.

PB L 35096. THIELE and FRANKE. The condensation of 1-diethylamino-2,4-pentadiyne and cyclohexanone in alkaline medium. (Part of Rubber Reserve Microfilm Reel 5841-1, PB13321) (Rubber Reserve Rept 612) Sep 1943. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This brief report describes three reactions of cyclohexanone with 1-diethylamino-2,4-pentadiyne in aqueous and alcoholic caustic potash solutions. The product obtained is 1-diethylamino-5-cyclohexanol-2,4-pentadiyne. In German.

PB L 35097. HILLEMANN and others (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Report of conversations with Drs. Breuers and Schäfer of the Buna-Werke, Schkopau. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 84) Oct 1943. 9 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes the installations and various operations of the plant for the production of (1) benzene-ethyl benzene and (2) styrene. One diagram is attached. In German. The ORR number 84, assigned to this document, is not visible.

PB L 35098. RETTERand FRANKE. Preparation of levulinonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 604) Feb 1944. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A process for the reaction of methylvinylketone, anhydrous hydrocyanic acid and conc. caustic potash solution is described. In German.

PB L 35099. THIELE and FRANKE. (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Experiments for the addition of hydrocyanic acid to butadienol acetate. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 603) Mar 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A mixture of 112g of "crude" butadienol acetate, 70g of 96-98% hydrocyanic acid and 1g of potassium cyanide are kept in an autoclave at 90° C. for four hours. After cool-

ing the hydrocyanic acid is removed by washing with distilled water. The residual oil is dried and then purified by distillation. In addition to a small amount of butadienol acetate, 26-31g of a fraction boiling at 87-89° C is obtained. This is the desired product consisting of the addition product of 1 mol of butadienolacetate and 1 mol of hydrocyanic acid. A small quantity of an unwanted condensation product of 1 mol of butadienolacetate and 2 mols of hydrocyanic acid is also present. In German.

PB L 35100. WIESEMANN. Alkyl acroleins. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 339) Apr 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
30 parts of formaldehyde (in 30% solution) and 81.5 parts of dimethyl amine hydrochloride are heated to 50° C (or 60° C.) with 57 parts of propionaldehyde (or 70 parts of butyraldehyde) under stirring for 10 hours. Then the temperature is increased to 100° C. A yield of 87% of methylacrolein and 85% of ethyl acrolein is obtained. In German.

PB L 35101. VIERHAUS (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Determination of the latent period of acrylonitrile manufactured at Chemische Werke Hüls. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 537) May 1944. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The acrylonitrile produced at the plant polymerizes only slowly, as can be seen by the latent periods of several days. Experiments were carried out to decrease the latent period. Addition of small amounts of bromine or chlorine was found to be effective. Addition of 5-10% of acetaldehyde was found to have a similar effect. One graph is attached. In German.

PB L 35102. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The condensation and hydrolysis of 4-cyano-2,2-dimethyl-butyraldehyde. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 598) Jun 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
These are two brief notes on the condensation of the nitrile, 4-cyano-2,2-dimethyl-butyraldehyde with acetone in alcoholic caustic potash solution, and on the hydrolysis of the nitrile to α', α'-dimethyl-glutaraldehydic acid by means of 25% hydrochloric acid. In German.

PB L 35103. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Preparation of 4-cyano-2,2-dimethyl-butyraldehyde. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 599) Jun 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A mixture of 8 mols of acid-free isobutyraldehyde and 8 mols of acrylonitrile stabilized with 1% of hydroquinone was reacted. An aqueous solution of potassium cyanide was used as catalyst. Experiments showed that the yields increase from 68% for a molar ratio of 1:1 to 82.5% for a molar ratio of 1:1.35. In German.

PB L 35104. LUDWIG. Report on acrylonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 122) Jul 1944. 8 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes the experiences with pilot plant equipment for the monthly production of 50 tons of acrylonitrile. The composition of the Nieuwland-catalyst ($CuCl$, NH_4Cl and HCl) was changed. Four tables and four diagrams are attached. In German.

PB L 35105. WEISSBACH and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Second note on the recovery of hydrocyanic acid from acetylene gas: Model experiments for the degassing of hydrocyanic acid from aqueous acetylene containing solutions. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 586) Apr 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The separation of hydrocyanic acid is achieved by washing with water. This washing treatment also dissolves hydrogen sulfide, acetylene, and higher water-soluble acetylenes which might be present. A method is described by which up to 10% hydrocyanic acid solution could be recovered from aqueous solutions in the presence of dissolved acetylene, by distillation. In German.

PB L 35106. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The preparation of 3-benzoylpimelic dinitrile and its hydrogenation to 4-benzyl-1,7-diamino heptane. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 596) Sep 1944. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Acetophenone is heated to 90° C. To this is added a mixture of acetophenone and dry acrylonitrile, stabilized by hydroquinone and thiazine, and an aqueous solution of potassium cyanide. Under conditions which are stated in the document the products formed are chiefly dinitriles. Other experiments to obtain trinitriles are also described and the results tabulated. In German.

PB L 35107. I.G. FARBENINDUSTRIE A.G. Quantitative flow sheet for the production of Buna S in October 1944. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 815) Oct 1944. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a detailed description of the quantities of raw material necessary to produce 100 tons of Buna S with production figures for these materials as required in the various phases of operation for the month of October 1944. In German.

PB L 35108. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Aldolization of acetaldehyde with sodium hydroxide instead of potassium hydroxide. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 80) Dec 1944. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Shortage of material and lack of transportation necessitated experiments to replace the aldolation-catalyst potassium hydroxide with sodium hydroxide. It was found that use of the substitute was not only more economical but resulted in improved centrifuging time and thereby a higher phosphate yield. In German. Report will not reproduce well.

PB L 35109. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The condensation of acetophenone and ethylacetophenone with 2,2-dimethyl-1-butyraldehyde-4-carboxylic acid. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 590) Dec 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In order to find a substitute for linseed oil acid the condensation of 2,2-dimethyl-1-butyraldehyde-4-carboxylic acid with acetophenone and its alkylation products was studied. The best yield (77.2% of the theory) was obtained if 0.5 mol of 2,2-dimethyl-1-butyraldehyde-4-carboxylic acid in methanol was transformed to the salt with 0.5 mol of 40% sodium hyuroxide. Then, 1 mol of acetophenone and conc. sodium hydroxide were added and the solution kept at 75-80° C. In the course of further treatment 1-benzoyl-3,3-dimethyl-1-pentene-5-carboxylic acid is obtained which is hydrogenated to 1-phenyl-4,4-dimethylhexane-6-carboxylic acid. Instead of acetophenone ethylacetophenone can be used in the reaction with the same result. In German.

PB L 35110. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Summary on the preparation and reactions of aminopentadiyne, diaminohexadiyne, and other amines of the acetylene series. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) Nov 1944. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Acetylene reacts with methanolamine, in the presence of copper acetylide, forming propargylamine when in the ratio 1:1 mol, diaminobutyne when 1:2 mols. Diacetylene reacts, similarly even without catalyst, to form aminopentadiyne and diaminohexadiyne, corresponding to the proportions used. These

substances and their hydrogenation products were investigated as activators for Buna but were found to be unsuitable. Their use for synthesizing other substances was tried in numerous experiments, the results of almost all of which were negative, a few more promising compounds not yet explored. Only condensation of aminopentadiene with isobutyraldehyde, and with acetone, was successful. Diethylamine was added to diacetylene to form diethylaminovinyl acetylene. On the whole, the products were not promising. Use in the rubber and pharmaceutical fields was still under investigation. In German.

PB L 35111. THIELE and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The hydrolysis of γ-benzoyl pimelodinitrile and the esterification of the resulting dicarboxylic acid. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 733) Dec 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The dinitrile, obtained from acetophenone with 2 mols acrylonitrile was stirred in potassium hyuroxide for 6 hours and filtered after addition of animal charcoal. When acidified with hydrochloric acid, an oil was obtained, apparently crude benzoyl pimelic acid. By distillation, the crystallised anhydride could be obtained. It could also be esterified to a colorless oil. In German.

PB L 35112. RETTER and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Preparation and reactions of 2,2-dimethyl-4-cyanobutyraldehyde. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 732) Dec 1944. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The preparation, by reaction of acrylonitrile with isobutyraldehyde, was improved by addition of potassium cyanide solution, rise of the reaction temperature to 95-105° C., and a 15% excess of acrylonitrile, to give a yield of 80-85% of the theoretical amount. With potassium hydroxide, the product formed a solid potassium salt which was dissociated by carbonic acid in methanol solution. A water-soluble, colorless compound, crystallized. Analysis indicated that it was 6-hydroxy-5,5-dimethyl-2-piperidone. The yield was 65% of theory. A patent was applied for. A similar process was claimed for hydrolysis of the cyanohyurin obtained by addition of hyurocyanic acid to 2,2-dimethyl-4-cyanobutyraldehyde. Other reactions concerned the hyurogenation of the cyanohyurin and the condensation of the 2,2-dimethyl-4-cyanobutyraldehyde with methylene groups: With malonic acid, methyl cyanoacetate, acetic acid ester, cyclohexanone, acetonitrile, and with 2,2-dimethyl-4-cyanobutyraldehyde itself. The investigation was still in the experimental stage. In German.

PB L 35113. RETTER and FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The addition of acrylonitrile to levulinonitrile. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 625) Dec 1944. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Levulinonitrile reacted with acrylonitrile, in presence of potassium cyanide, in the molecular ratios of 1:1, 1:2, 1:3, 1:4, and 1:5. The products were treated with water. Those in the 1:1 and 1:2 proportions formed crystals, the other resin-like substances. Recrystallization from chloroform or acetonitrile showed clearly formation of the 1:2 product, apparently the most favorable ratio. Further experiments were carried out to establish the most favorable conditions for these reactions. In German.

PB L 35114. I.G. FARBENINDUSTRIE A.G., LEVERKUSEN, GERMANY. Latex aids. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 398) Oct 1942. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Use of "Emulgator MN" as a plasticizer for "Igetex-mixtures" (Bunalatices) is more economical than that of "Emulphor O." 1-3% solutions of the new emulsifying agent are sufficient, whereas Emulphor O-solutions require a concentration of 10-20%. As "Latekoll A" cannot be used for "Igetex-MN"-mixtures which contain zinc oxide, another thickening agent "Latekoll M" is recommended. The composition of the new agents is not given. In German.

PB L 35115. BECKER. Conference on basic emulsifying agents to be prepared at the Höchst plant. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 146) Aug 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a short outline on research for the preparation of electrolyte-free emulsifying agents chiefly based on mepasinsulfochloride as starting material. Another method indicated is the esterification of alkylphenoxy-acetic acid with hydroxyalkylamines. In German.

PB L 35116. HARMS. The re-use of the spent sulfuric acid in the production of Nekal. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 544) May 1943. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes theoretical considerations and cost calculations for a more economical use of the spend sulfuric acid. In German.

PB L 35117. CHEMISCHE WERKE, HÜLS, G.M.B.H., MARL, GERMANY. Recovery of butylamine. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 14) Apr 1944. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Experiments showed that it is not possible to recover butylamine which is lost in the drying of butylamine-containing butadiene catalysts. In German. Part of this frame will not reproduce well.

PB L 35118. BECKER. The use of esteramine in acid polymerisation. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 141) Sep 1942. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This short note gives quantitative data on "esteramine" which is used in the production of Buna S. It is prepared from paraffin fatty acids which have 11-14 C-atoms and diethylaminoethanol. Nitric acid-esteramine can also be used. In German.

PB L 35119. GRAULICH. Experiments for the preparation of esteramine by means of N-hydroxyethylpyrrolidine. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 301) Nov 1942. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Addition of ethylene oxide to pyrrolidine yields N-hydroxyethyl-pyrrolidine. This product was esterified with "Wittener Seifenfettsäure" (a distillate of Fischer crude paraffin produced by Deutsche Fettsäurenwerke, Witten) and tested for use as an emulsifying agent in the acid polymerization of Buna S. In German.

PB L 35120. WOLZ. Preparation of ethermines and their use as emulsifying agents for the polymerization of Buna. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 173) Jan 1944. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In order to find substitutes for "esteramines" (paraffin fatty acids-diethylaminoethanol-esters) the preparation of "etheramines" by hydrogenation of addition products of higher alcohols to acrylonitrile was studied and the products tested for use as emulsifying agents in the polymerization of Buna. Alkoxypropylamines in hyurochloric acid emulsion are good emulsifying agents if there is at least one straight C_7-chain in the alkoxy-group. In German.

PB L 35121. GRAULICH, WILHELM. Quality requirements for the paraffin fatty acids used in alkaline polymerization and preparation of esteramines. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 297) Mar 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50

This paper discusses experiences in acid and alkaline polymerization with fatty acids of different origin. In German. This paper will reproduce very poorly.

PB L 35122. GRAULICH, WILHELM. Annual report for 1943. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) Feb 1944. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report briefly describes the results achieved during 1943. Difficulties in "esteramine" production were overcome. Progress was made in acid polymerization. Some difficulties still existed in Buna N production which could be eliminated by addition of 2,3-dichloro-alphanaphthoquinone. New non-sulfur-containing regulators, effective in both acid and alkaline solution, were found in the esters of azodicarboxylic acids. Unsuccessful tests with some emulsifiers are noted. Polymerization in the vapor phase was unsatisfactory. The polymerization experiments included tests with methyl and ethyl acrolein. In German.

PB L 35123. GRAULICH, WILHELM. Final research into the preparation of esteramine. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) Jan 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The fatty acids of crude paraffin from which "esteramine" had been prepared previously, consist of branched carbon chains. An investigation was made in order to determine whether low temperature hydrogenation paraffins could be used, the fatty acids of which contain straight-chain carbons. It was found that the mixture of fatty acids contained in the first two-thirds of the fractionated distillate having 7 to 14 carbon atoms in the molecule, produced a satisfactory esteramine. Using this esteramine in polymerization, the temperature had to be about 5° higher than with crude paraffin esteramine. Esteramine from the last third of the distillate was insoluble in dilute sulfuric acid and therefore unusable. This portion (14-20 carbon atoms) had to be eliminated from the mixture used. In German.

PB L 35124. WIETZEL, GUSTAV. Oxidized paraffin fatty acid and paraffin base. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 114) Jul 1944. 8 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This acid was a substitute for linseed oil fatty acid in the polymerization of Buna. Paraffin is heated to 120-140° C. in presence of alkali and manganese catalysts, so that about 40% of it is oxidized by air into fatty acid. The resulting mixture is neutralized with sodium hydroxide and the distillation residue is treated with sulphuric acid. From the crude acid mixture, several fractions are isolated by vacuum distillation. It was found that for Buna production, only those acids containing 10 to 15 carbon atoms can be used. Those with more than 15 precipitate out during polymerization, while those with less than 10, are washed out. Whether a mixture is within the acceptable range is determined either by distillation or by crystallization from methanol. The products of the different plants are discussed in detail. Tables and graphs illustrate the differences; the illustrations, however are small and difficult to read. In German.

PB L 35125. BECKER. Discussion of esteramine substitutes. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 145) Aug 1942. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This conference was concerned mainly with the polymerization of propylene to derivatives of nonylene and of dodecylene. A few other subjects are named, but no details are given. In German.

PB L 35126. PETZOLD. On paraffin fatty acids. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 548) Oct 1944. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This paper describes the properties of the fatty acid produced by the Witten plant, and of the mixture of the fatty acids from the Henkel and Oppau plants, with a view towards their practical use. A table shows the results of analyses. In German.

PB L 35127. WESLY. Removal of carbonates and silicates with magnesium hydrate (calcined dolomite). (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 440) Jan 1940. 13 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This paper discusses the removal of silicates and carbonates from water by heating water to about 97° and simultaneously adding milk of lime and magnesia. It was found that magnesium hydrate can be used in place of these two substances. It is more easily prepared, cheaper, and more effective. This is illustrated by graphs and tables. In German. Legibility is poor.

PB L 35128. WICKBOLD (CHEMISCHE WERKE, HÜLS, G.M.B.H.). Experiments for the removal of traces of copper from water by the use of Wofatit. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 455) Jun 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Experiments are described which confirm the claim that copper in amounts of less than 1 γ/liter can be removed from condensates by filtration with the help of "Wofatit K" saturated with hydrogen ions. In German.

PB L 35129. WESLY. The preparation of feed water free from silicic acid and hardness. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 718) Jul 1939. 27 f. Price: Microfilm-$1.25 - Enlargement print-$3.00
A new process for the production of high pressure feed water is described. Hot water is decarbonated and the silica removed with calcium and magnesium oxides. After filtration it is neutralized with sulfur, degassed, and the hardness removed with "Wofatit" (artificial resin P). It is finally treated with ammonium phosphate. In German.

PB L 35130. MEISENBURG. Notes on the preparation of pinacol. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 237) Mar 1939. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a brief memorandum in which the author announces the reduction of vinylmethylketone to an unsaturated pinacol. It was intended to obtain β,γ-divinylbutadiene by splitting off 2 molecules of water from this pinacol and to transform other ketones such as isopropenylmethylketone and mesityl oxide into pinacols. In German.

PB L 35131. BECKER. Memo on a discussion on Pergut and chlorinated Buna. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 162) Oct 1940. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
In this meeting various methods and chemical agents for the improvement of high viscosity "Pergut" (chloro rubber), high viscosity chlorinated Buna, and chlorinated Buna or "Bunalit" for varnishes were discussed. In German.

PB L 35132. BLÖMER. New components for copolymers. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 861) Mar 1942. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a brief report on experiments to obtain 1) α-chloracrylonitrile, 2) α-chlorostyrene, and 3) α-methylstyrene. In German. The report is largely illegible and will reproduce poorly.

PB L 35133. FRANKE (CHEMISCHE WERKE, HÜLS, G.M.B.H.). The relationship between the decomposition of persulfate and through-put. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 545) Jun

1940. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The addition of activators, which increases the decomposition of potassium persulfate, also increases the speed of polymerization but beyond a certain limit only persulfate decomposition, not polymerization, is further increased. Detailed experiments with various activators and under varying conditions were carried out the results of which are shown in three tables. In German.

PB L 35134. WIESEMANN. Process for preparation of α-substituted acroleins on a semi-commercial scale. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 340) Feb 1944. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The product is obtained by the reaction of a mixture of formaldehyde and dimethylamine hydrochloride with butyraldehyde. A continuous and a discontinuous method are described. Acrolein and water layers are produced in both processes. In the continuous process, quick separation is required to prevent polymerization and dimerization of the acrolein layer. The discontinuation method is simpler and produces acrolein pure enough to make further distillation unnecessary. In German. Report will reproduce poorly.

PB L 35135. WIESEMANN. The preparation of mepasin sulfinate and mepasin mercaptan. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 45) Feb 1945. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Mepasin sulfinate and mixtures of mepasin sulfinate and mepasin mercaptan are used as activators in emulsion polymerization. The two compounds are obtained by reduction of mepasin sulfochloride with powdered zinc. The reaction may take place in water or alcohol. If the sulfinate is required, the reaction must take place in neutral medium. In acid medium, the reaction results in the formation of the mercaptan. Six examples illustrate variations of the method. In German. This report will not reproduce well. For translation, see FIAT Final Report, PB 44653, v. 4, p. 763, this Bibliography.

PB L 35136. I.G. FARBENINDUSTRIE, A.G. I.G. Farben product. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 790) n.d. 6 f. Price: Microfilm-$1.00 - Enlargement print- $1.50
This document consists of lists of (1) butadiene derivatives to be used alone or as copolymers, (2) vinyl compounds and miscellaneous compounds to be used as copolymers for butadiene, and (3) polymerization regulators. In German.

PB L 35137. HAGEN. Stabilizing agents in Buna S. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 357) Oct 1939. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is an evaluation of a number of amine and diamine derivatives which were tested as stabilizers. Two tables list 15 stabilizers and their effects. In German. These frames will not reproduce well.

PB L 35138. FRANKE. Seventh note on the preparation of acrylic ester: The discovery of highly effective stabilizing agents. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 380) Apr 1938. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Among 24 chemicals which were tested for their power to prevent the autopolymerization of acrylic ester methylene blue proved to be best. Hydroquinone cannot be used because it is too volatile. In German.

PB L 35139. KREBS and KOCHENDOERFER. Hydrogenated crotonaldehyde condensates. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 431) Jun 1940. 25 f. Price: Microfilm-$1.00 - Enlargement print-$2.50
This report describes, in great detail, experiments to obtain fatty alcohols by hydrogenation of polyaldehydes prepared from condensation products of crotonaldehyde. The results were not satisfactory. In German. Much of the report will reproduce poorly.

PB L 35140. REPPE. The present state of the new butadiene process. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 32) Jul 1940. 15 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes in great detail the four phases of butadiene production from formaldehyde and acetylene. Special attention is given to the catalysts used and the various byproducts which are formed. Four diagrams and a flowsheet are included. In German. Part of the report will not reproduce well.

PB L 35141. I.G. FARBENINDUSTRIE A.G., LUDWIGSHAFEN, GERMANY. Instructions for the production of trimethanol propane. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 435) 1940-1941. 12 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Raw materials, phases of operation and equipment necessary for the production of trimethanol propane from butyraldehyde and formaldehyde are described in great detail. In German. Part of the report will not reproduce well.

PB L 35142. MEIS. Quality of butadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 31) Oct 1942. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is the copy of a letter in answer to a complaint over deficiencies of various samples. Based on latest tests, measures for improvement are suggested. In German. This will not reproduce well.

PB L 35143. BRÄUCKER. Determination of small amounts of amine in butadiene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 471) Jan 1943. 2 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The method consisted in evaporating the butadiene, passing it through hydrochloric acid, and measuring the amount of nitrogen in the hydrochloric acid by the Kjeldahl method. A table gives the results with various butadiene mixtures. In German.

PB L 35144. DORRER. Separation of butadiene and butylene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 30) Feb 1944. 9 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The butadiene sulfone method at Leverkusen was compared with the azeotropic distillation method. The Ludwigshafen method consists in forming a sulfone by reaction of sulphurous acid with the butadiene, in presence of a polymerization retarder, under pressure and at temperatures above the sulfone dissociation point at normal pressure. The azeotropic distillation method at Schkopau uses methylamine. Both methods are illustrated by detailed diagrams. Calculations for both methods are given. For mixtures containing high percentages of butadiene the distillation method was found to be superior. The sulfone method was to supplement it for mixtures with low butadiene content, including such fractions resulting from the distillation process. In German.

PB L 35145. HAAG and others. Experiments on the hydrogenation of butyndiol at 300 and 700 atmospheres of pressure. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 28) Jun 1944. 11 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The apparatus is described and shown in a diagram. A better yield was obtained at a pressure of 700 atmospheres. Results are tabulated. In German. Part of this report is illegible.

PB L 35146. BUB (CHEMISCHE WERKE HÜLS G.M.B.H.). Research in high pressure hydrogenation at the Hüls plant. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 119) Jul 1944. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The hydrogenation of pure aldol and butynediol was compared at pressures of 300 and 700 atmospheres on a larger scale than described in the previous paper (PB 35145). It was confirmed that at 700 atmospheres the yield was higher; the hydrogenation temperature was also lower and the "BBE contact" (copper-chrome-silica gel) had a longer life. A diagram shows the apparatus used, and 3 graphs and 3 tables give the results. In German.

PB L 35147. SCHOENMANN. Determination of the reaction time of the various components of the reacting mixture in the butynediol hydrogenation furnace. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 913) Jul 1944. 9 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The times vary widely for the various components. This was determined by samples from the different sections of the ovens. It was felt that equalization would improve the yield, but this problem was not yet solved. Theoretical considerations concerning this problem are also discussed. Research is to be continued. In German.

PB L 35148. STEINHOFER. The chemistry of the butynediol hydrogenation. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 914) Jul 1944. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report compares the hydrogenation of butynediol with that of butanediol. Special attention is given to γ-hydroxybutyraldehyde, butenediol, butanol and the residues which are obtained in the hydrogenation of butynediol. One flow sheet, two graphs, and two tables are included. In German.

PB L 35149. ROH and HOFFMANN. Dehydrogenation of n-butane to n-butylene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 9) n. d. 27 f. Price: Microfilm-$1.25 - Enlargement print-$3.00
This is a detailed description of laboratory and pilot plant experiments with special attention to equipment, catalysts used and operational procedures. One graph and one diagram are attached. In German. The larger portion of the text is illegible and will not reproduce well.

PB L 35150. BROICH. State of the process for preparation of butadiene from 1,3-butylene glycol. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 121) Aug 1944. 13 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a report on progress made. It was found advantageous to divide the ovens for crude butadiene production into two or more sections. Moreover, the addition of hydrogen to the reacting gases increased the yield about 5%. The apparatus used is shown in diagrams. Other diagrams illustrate the methods for purification of the crude product, and for processing of the byproducts. In German. Several pages will reproduce poorly, and several tables are too small to be read.

PB L 35151. BREUERS. The state of the process for the preparation of butol with special regard to the recovery of the byproducts. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 118) Aug 1944. 10 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The composition of crude butylene glycol (butanediol, butol) is given in a table which, however, is reproduced too small to be legible. Two flow sheets are also illegible. The text mentions as byproducts butanol, hexanol and hexantriol isolation of which is difficult because of the reactability of the aldol and aldehyde. The problem was to reduce the quantity of byproducts and to recover them in commercial quality. Some difficulties had not yet been overcome. Part of the text is also illegible. In German.

PB L 35152. STRÖBELE. The development of the distillation of butol at Schkopau. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 8) 1940. 10 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This report describes in detail the historical development from the small-scale complicated method to the simpler large-scale process. It is illustrated by a number of graphs and diagrams. In German.

PB L 35153. BROICH. Butadiene distillation in Schkopau. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 7) Oct 1940. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a detailed description of the Schkopau procedure for processing the crude butadiene gas. It comprises washing, drying, cooling, and distilling. A description is given of the apparatus used, together with a flow diagram. The entire procedure is explained step by step, with some discussion of the difficulties that have been overcome. In German.

PB L 35154. WEISSBACH and FRANKE (CHEMISCHE WERKE HÜLS G.M.B.H.). The dehydrogenation of 1,6-glycols to 1,6-diketones and 1,6-ketols. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 591) Oct 1944. 8 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This was to be a step in the preparation of 1,6 diamines for polyamides. The methods for "Diol B" are described in detail; a table gives the results under varying conditions. Results with other 1,6-diols are also described and tabulated. A third table shows the properties of the diketones obtained. Dehydrogenation of all these secondary 1,6-glycols gave a good yield with copper contact at about 200° C. More ketol is obtained at lower, more dione at somewhat higher temperature. In German.

PB L 35155. BAUMANN and WOLFF. Production of butadiene by the Lebedev process. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 883) 1945. 14 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Five flow diagrams, one table and a few technical notes on the Lebedev process are attached to a letter in which the possibility of installing an underground butadiene plant after the Russian model at Jefremow is mentioned. In German.

PB L 35156. HOFER. Conference on butadiene-butylene separation by the sulfone process at Leverkusen. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 29) Mar 1944. 1 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
This is a short memo on a conference in which advantages and disadvantages of the process were discussed. In German.

PB L 35157. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Butadiene plant. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 775) Apr 1945. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
With the aid of a flow diagram, a description is given of equipment for the conversion of 1,3-butylene glycol to butadiene. Some details of the operation are also given. In German.

PB L 35158. HAAG. Hydrogenation of aldol. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 770) Apr 1945. 3 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
With the help of one diagram, equipment and details of operation for the hydrogenation of aldol to crude 1,3 butylene glycol are described. In German.

PB L 35159. FRANK. Description of the production of aldol. (Part of Rubber Reserve Microfilm Reel 5841-1,

PB 13321) (Rubber Reserve Rept 771) Apr 1945. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Plant equipment and details of operation for the aldolization of acetaldehyde are described. A flow diagram, which will not reproduce well, is also included. In German.

PB L 35160. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Description of the low temperature refrigeration installation # 462. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 760) Apr 1945. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
With the help of one diagram an installation of the Hüls plant is described which is used for the purification of crude acetylene. In German.

PB L 35161. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Description of the gas separation installation (Linde-installation) installation # 460. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 779) Apr 1945. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
A description is given of the Linde plant for the purification of acetylene prepared by the electric arc process and for the separation of the accompanying gases. A diagram is included. In German.

PB L 35162. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Description of the gas washers at Hüls # 442. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 768) Apr 1945. 7 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
With the aid of a diagram the installation for purifying acetylene obtained by the electric arc process is described. In German.

PB L 35163. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Analysis of butadiene. Rapid determination of styrene. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 884) Apr 1945. 6 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
Methods of butadiene analysis described cover the following: (1) Gravimetric method using bromination; (2) determination of acetaldehyde; and (3) determination of active oxygen. Analytical requirements for butadiene are tabulated. Methods for the rapid determination of styrene described cover (1) Titration with bromine; (2) refractometric determination; (3) determination of hydroquinone; and (4) determination of divinyl benzene. Typical results obtained by each of these methods are tabulated. In German.

PB L 35164. CHEMISCHE WERKE HÜLS G.M.B.H., MARL, GERMANY. Production and distillation of glycols. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 773) Apr 1945. 5 f. Price: Microfilm-$1.00 - Enlargement print-$1.50
The production of ethylene glycol and diglycol from ethylene oxide is described with the aid of a flow diagram. Triglycol and tetraglycol are obtained in the same process. Analytical requirements are listed for glycol as a cooling liquid, pure glycol, diglycol and triglycol. Statistics of the Hüls production are included. In German.

PB L 35165. HAAG. Distillation of butol and recovery of byproducts. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 412) Apr 1943. 4 f. Price: Microfilm-$1.00 - Enlargement print-$1.25
The Hüls apparatus for continuous distillation of crude butol (1,3-butanediol) is illustrated by a diagram, and its operation described in detail. The principal byproducts are crude ethanol and butanol. The results of analyses are tabulated. In German. This report will not photograph well.

PB L 35166. I. G. FARBENINDUSTRIE A. G., LUDWIGSHAFEN, GERMANY. Chemical and technical basis of the butadiene synthesis at Ludwigshafen. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 919) May 1944. 43 f. Price: Microfilm-$1.25 - Enlargement print-$4.50
This is a detailed account of the historic development (going back to the first world war) of the chemical processes and the commercial solutions in Ludwigshafen. It is illustrated with ten schematic diagrams and several flow sheets. In German. Part of the report is illegible or nearly so. One page (page 2) is missing.

PB L 35167. I. G. FARBENINDUSTRIE A. G., LUDWIGSHAFEN, GERMANY. Results of the Reppe process. (Part of Rubber Reserve Microfilm Reel 5841-1, PB 13321) (Rubber Reserve Rept 920) 1941-1944. 40 f. Price: Microfilm-$1.25 - Enlargement print-$4.00
The Reppe process, for catalytic synthesis of the preliminary products for butadiene production, had been used on a technical scale at Ludwigshafen for about nine months. It comprises the consecutive syntheses of butynediol, butanediol, tetrahydrofuran, butadiene. The starting materials are formaldehyde and acetylene. The technical methods, and problems encountered, are dealt with in great detail. Diagrams illustrate the apparatus used for each product. Results of experiments and production figures are tabulated. Commercial calculations are also included. It had not yet been decided whether it was more advantageous to get the butadiene directly from butanediol by distillation or by the tetrahydrofuran route. In German.

TEXTILES AND TEXTILE PRODUCTS

PB L 80749. SCHAEFFER, ALBERT. Action of alkali upon cellulose. (OM Textile Series Rept 33) Apr 1947. 88 p. Price: Microfilm-$2.00 - Photostat-$6.00.
The information compiled by Dr. Schaeffer and published in this report in its entirety should prove helpful to textile manufacturers, laundries, and manufacturers of wet processing and washing agents. The commercial fibers represented as Staple Fibers No. 1, No. 2, and No. 3 have been identified, respectively, as Vistra, Cuprama, and Lanusa. Staple fibers No. 4 and No. 6 have not been identified, but are believed to be viscose-process rayons. The report is divided as follows: Part I. investigation of the effect of common laundering alkalies, Part II. the effect of drying or oxygen on the alkali boil, Part III. chemical reactions possible during treatment of cellulose with alkali in presence of oxygen, Part IV. the effect of magnesium silicate, and Part V. thermal decomposition of cellulose in course of the drying process. Tables, graphs, photomicrographs, and reactions are given throughout the text.

* PB L 79570. SAMUELS, H. and others. Wool, preparing, dyeing and finishing. Discussions with I. G. personnel. (BIOS Final Rept 1239, Item 22). n. d. 29 p. Price: Microfilm-$1.00 - Photostat-$2.00
The discussion is considered under seven headings, viz. - 1. Oiling, 2. Scouring, 3. Whitening of wool, 4. Dyeing, 5. Fibres with dyeing properties similar to wool, 6. New dyes, and 7. Finishing. In general no novel advances had been made by the I. G. in the field surveyed, and progress had been confined to lines of development in existence before the war. War-time developments were largely concerned with the shortages and need for substitutes. Thus there were extensions to the existing range of I. G. emulsifying agents, lubricants, detergents, dyes, and finishing agents notably a new Eulan and a rot-proofing agent. Among the most interesting features were plans to provide agents which would allow of wool being processed right up to the dyeing stage in a neutral or slightly acid condition, the production of a colorless whitening agent to supplement bleaching and the attempt to react dyestuffs with the wool structure other than by salt formation on amino groups. Fundamental research work in the field of application studies was not done during the war years.

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 73166. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Leitz patent and patent design applications. (FIAT Microfilm Reel I-46, Frames 4796-5134) 1943-1944. 939 f. Price: Microfilm-$6.00 - Enlargement Print-$94.00
This FIAT microfilm reel consists of 77 Leitz patent and design patent applications for optical and other instruments listed below. In some cases, correspondence with the German Patent Office and other interested parties is included. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4796-4810 PB L 73166	MÜNNCHEN (Inventor). Method of producing firm, fat-resistant low-reflection layers on optically effective planes. Ger. patent application L 110 895 VIb/32b dated Mar 17, 1943. In German.	$1.50
4811-4824 PB L 73166	LEITZ, L. and others (Inventors). Telescopic gun sight. Ger. patent application L 111 282 XI/42k dated Apr 24, 1943. In German.	1.50
4825-4843 PB L 73166	BROSCHKE, H. (Inventor). Hardness testing apparatus based on the penetration principle. Ger. patent application L 110 969 IXb/46k dated Mar 24, 1943. In German.	2.00
4844-4852 PB L 73166	LEITZ, E. and others (Inventors). A telescope built into a vehicle. Ger. patent application L 110 958 IXa/42h dated Mar 24, 1943. In German.	1.50
4853-4867 PB L 73166	LEITZ, L. (Inventor). Observation device. Ger. patent application L 111 072 IXa/42h dated Apr 2, 1943. In German.	1.50
4868-4888 PB L 73166	KOCH, A. (Inventor). Adjustment device for prisms. Ger. patent application L 110 084 IXa/42h dated Apr 2, 1943. In German.	2.50
4889-4912 PB L 73166	BROSCHKE, H. (Inventor). Guiding mechanism for the point in a hardness testing apparatus used to penetrate the specimen. Ger. patent application L 111 280 IXb/42k dated Apr 24, 1943. In German.	2.50
4913-4931 PB L 73166	BECKER, H. (Inventor). Device for leveling the horizontal beam of metal working machines, etc. Ger. patent application L 111 284 Ib/49b dated Apr 22, 1943. In German.	2.00
4932-4939 PB L 73166	SCHÄFER, W. and others (Inventors). Sighting device. Ger. patent application L 111 599 IX/72f dated May 27, 1943. In German.	1.50
4940-4962 PB L 73166	ROSENTHAL, G. (Inventor). Relay for current regulation. Ger. patent application L 111 641 VIIId/21c dated May 27, 1943. In German. Some frames may not reproduce well.	2.50
4963-4976 PB L 73166	HORNUNG, J. (Inventor). (Optical) measuring arrangement for testing devices, etc. Ger. patent application L 111 987 IXb/42b dated Jul 2, 1943. In German.	1.50
4977-4988 PB L 73166	MÜNNCHEN, and others (Inventors). Method for producing graduated range plates by means of photography. Ger. patent application L 111 974 IXa/42h dated Jul 2, 1943. In German.	1.50
4989-5003 PB L 73166	ARNOLD, R. (Inventor). Mechanical surface tester using a feeler point. Ger. patent application F 93 353 IXb/42b dated Jul 8, 1943. In German. Several frames will not reproduce well.	1.50
5004-5022 PB L 73166	SCHÄFER, W. (Inventor). Infinitely variable friction gear. Ger. patent application L 112 091 XII/47h dated Jul 9, 1943. In German. Supplement to patent application L 110 438 XII/47a. Including correspondence with the German Patent office. Drawings included.	2.00
5023-5036 PB L 73166	SCHÄFER, W. (Inventor). Tooling machine with a feeder arrangement for the tool or the workpiece. Ger. patent application L 112 664 Ib/49b dated Jul 9, 1943. In German. Some frames may not reproduce well.	1.50
5037-5057 PB L 73166	SCHÄFER, W. (Inventor). Hydraulic feeding arrangement for tooling machines, e.g., lathes, milling machines, etc. Ger. patent application L 112 301 Ib/49a dated Jul 31, 1943. In German.	2.50
5058-5082 PB L 73166	KALENSEE, W. and others (Inventors). Arrangement for coating several planes of a body by vaporization in a vacuum. Ger. patent application L 112 461 VIa/48b dated Aug 19, 1943. In German.	2.50
5083-5096 PB L 73166	WAGNER, A. (Inventor). Releasing mechanism for cameras. Ger. patent application L 112 475 IXa/57a dated Aug 28, 1943. In German. Some frames may not reproduce well.	1.50
5097-5108 PB L 73166	FORSTER, A. (Inventor). Mechanical surface testing device. Ger. patent application F 94 017 IXb/42b dated Jun 26, 1943. In German.	1.50
5109-5118 PB L 73166	BECKER, H. (Inventor). Boring spindle according to German Patent 665 058. Ger. patent application L 112 665 Ib/49b dated Aug 17, 1943. In German. Supplement to German Patent 665 058.	1.50
5119-5130 PB L 73166	RINKER, W. (Inventor). Mirror mounting for optical measuring and testing instruments. Ger. patent application L 112 943 IXa/42h dated Oct 29, 1943. In German.	1.50
5131-5139 PB L 73166	LUDEWIG (Inventor). Telescope. Ger. patent application L 113 090 IXa/42h, n.d. In German.	1.50
5140-5163 PB L 73166	KALENSEE, W. and others (Inventors). Centrifugal arrangement for produc-	

ing layers of silicic acid and similar compounds on optically effective planes, especially on glass surfaces. Ger. patent application L 113 093 VIb/32b dated Nov 13, 1943. In German. 2.50

5164-5175 PB L 73166 BROSCHKE, H. (Inventor). Boring spindle. Ger. patent application L 113 195 Ib/49a dated Nov 30, 1943. In German. 1.50

5176-5213 PB L 73166 ROSENTHAL, G. (Inventor). Photoelectric photometer. Ger. patent application L 113 221 IXa/42h, n.d. In German. 4.00

5214-5227 PB L 73166 BEREK and others (Inventors). Arrangement for the determination of the number of particles suspended in a solution. Ger. patent application L 113 378 IXa/42e dated Dec 18, 1943. In German. 1.50

5228-5250 PB L 73166 LOH and others (Inventors). Method for producing lenses and the like, and of optical systems. Ger. patent application L 113 406 IXa/32a dated Dec 23, 1943. In German. 2.50

5251-5260 PB L 73166 DUMUR, H. (Inventor). Arrangement for adjusting sections on microscope stages. Ger. patent application L 113 455 IXa/42h dated Jan 3, 1944. In German. 1.50

5261-5272 PB L 73166 LEITZ, L. (Inventor). Stereophotographic arrangement with two objectives and a frontal prism attachment. Ger. patent application L 113 454 IXa/57a dated Jan 3, 1944. In German. 1.50

5273-5286 PB L 73166 MÄNNCHEN, K. (Inventor). Method of producing low-reflection layers. Ger. patent application L 113 653 VIb/32b dated Jan 26, 1944. In German. 1.50

5287-5293 PB L 73166 MÄNNCHEN, K. (Inventor). Method of producing etching bases for the manufacture of graduated range plates. Ger. patent application L 113 644 IXa/57d dated Jan 26, 1944. In German. 1.50

5294-5313 PB L 73166 WEISSENBERG, G. and others (Inventors). Exposure meter for cameras. Ger. patent application L 113 972 IXa/42h dated Feb 26, 1944. In German. 2.00

5314-5323 PB L 73166 SÄNGER, O. (Inventor). Arrangement for limitation of the axial displacement of two, especially cylindrical, telescoped bodies. Ger. patent application 113 972 IXa/42h dated Feb 26, 1944 (sic). In German. 1.50

5324-5336 PB L 73166 LEITZ, L. (Inventor). Measuring device with an arrangement for correcting errors in the measurement of distances. Ger. patent application L 113 903 IXb/42b dated Feb 28, 1944. In German. 1.50

5337-5350 PB L 73166 BECKER, H. (Inventor). Ocular for precision measurements. Ger. patent application L 114 127 IXb/42b dated Mar 22, 1944. In German. 1.50

5351-5362 PB L 73166 MAY, E. (Inventor). Glass plate for testing the evenness of planes. Ger. patent application L 114 128 IXa/42h dated Mar 23, 1944. In German. 1.50

5363-5374 PB L 73166 LUZ, CH. (Inventor). Adjustment device, especially for tube-type levels. Ger. patent application L 114 342 IXb/42c dated Apr 22, 1944. In German. 1.50

5375-5386 PB L 73166 MULCH, H. (Inventor). Method and arrangement for the determination of an astronomical pole. Ger. patent application L 115 047 IXa/42 dated Jul 15, 1944. In German. 1.50

5387-5392 PB L 73166 TANKENBERG, W. (Inventor). Correspondence regarding inheritance rights of the widow of the inventor to the Patent under above number. Ger. patent application T 57 439 IXb/42b, 1944. In German. 1.50

5393-5399 PB L 73166 MULCH, K. (Inventor). Gun sight. Ger. patent application L 115 301 XI/72f dated Aug 19, 1944. In German. 1.50

5400-5421 PB L 73166 BECKER, H. and others (Inventors). Arrangement for correcting an error due to the measuring device in machines and instruments with optical measuring arrangements. Ger. patent application L 115 506 IXb/42b dated Sep 4, 1944. In German. 2.50

5422-5437 PB L 73166 RIEDE (Inventor). Method for increasing the strength of aluminum layers of mirrors. Ger. patent application L 115 709 VIa/48b dated Oct 2, 1944. In German. 2.00

5438-5447 PB L 73166 MÄNNCHEN, K. (Inventor). Method for the production of low-reflection layers. Ger. patent application not dated. In German. 1.50
Supplement to Patent application L 108 210 VIb/32b of Jun 19, 1942.

5448-5459 PB L 73166 LEITZ, L. and others (Inventors). Device for bearing determination in aerial navigation. Ger. design patent application M0 375 gm 42h dated Dec 19, 1944. In German. 1.50
Supplement to patent application L 116 470 IXa/42h. Drawing included.

5460-5472 PB L 73166 MEYER (Inventor). Method for evaluation of impressions made by hardness testing devices. Ger. design patent application not dated. In German. 1.50

5473-5480 PB L 73166 RIEPERT, H. (Inventor). Eyepiece changer for microphotographic arrangements. Ger. design patent application L 39 768 /42h dated Sep 16, 1944. In German. 1.50

5481-5492 PB L 73166 MICHAELI, G. (Inventor). Work table for microphotographic devices. Ger. design patent application L 39 767 /57a dated Sep 16, 1944. In German. 1.50

5493-5499 PB L 73166 RIEPERT, H. (Inventor). Microphotographic arrangement. Ger. design patent application L 39 703 gm 57a dated Sep 4, 1944. In German. 1.50

5500-5509 PB L 73166 RIEPERT, H. (Inventor). Magnetic specimen stage for microscopes. Ger. design patent application L 39 704 /gm 42h dated Sep 4, 1944. In German. 1.50

5510-5518 PB L 73166 BECKER, H. (Inventor). Arrangement for correcting instrument errors in machines equipped with optical measuring devices. Ger. design patent application L 39 890 gm 42b, n.d. In German. 1.50
Supplement to patent application L 115 506 IXb/42b.

5519-5522 PB L 73166 MULCH, K. (Inventor). Gun sight. Ger. design patent application L 39 673 gm 72f dated Aug 19, 1944. In German. 1.50
Supplement to patent application L 115 301 XI/72f.

5523-5529 PB L 73166 ECKHARDT, R. (Inventor). Boxed level. Ger. design patent application L 39 626 gm 42e dated Jul 19, 1944. In German. 1.50

5530-5539 PB L 73166 LEITZ, E. (Inventor). Plain journal bearing. Ger. design patent application L 39 672 gm 47b dated Jul 7, 1944. In German. 1.50
Supplement to patent application L 115 292 XI/47b.

5540-5560 PB L 73166 WAGNER (Inventor). Arrangement for actuation of a camera shutter release and flashlight or the like. Ger. design patent application L 39 590 gm 57a dated Jul 7, 1944. In German. 2.50

5561-5566 PB L 73166 MULCH, K. (Inventor). Method and arrangement for the determination of an astronomic pole. Ger. design patent application L 39 559 gm 42h dated Jul 15, 1944. In German. 1.50
Supplement to patent application L 115 047 IXa/42h.

5567-5573 PB L 73166 LUZ, CH. (Inventor). Adjusting arrangement, especially for tube-type levels. Ger. design patent application L 38 991 gm 42c dated Feb 22, 1944. In German. 1.50
Supplement to patent application L 114 342 IXb/42c.

5574-5578 PB L 73166 MAY, E. (Inventor). Glass plate for testing the evenness of planes. Ger. design patent application L 39 015 gm 42h dated Mar 23, 1943. In German. 1.50
Supplement to patent application L 114 128 IXa/42h.

5579-5597 PB L 73166 SPEISER, K. (Inventor). Detachable connection of two telescopes especially cylindrical parts for optical and mechanical precision instruments. Ger. design patent application L 38 937 gm 42h dated Mar 22, 1944. In German. 2.00

5598-5607 PB L 73166 CLAUSSEN (Inventor). Hand press for pressing and positioning microscopic objects in plastic masses. Ger. design patent application L 38 938 gm 42h dated Mar 22, 1944. In German. 1.50

5608-5613 PB L 73166 BECKER, H. (Inventor). Eyepiece for precision measurement. Ger. design patent application L 39 014 gm 42b dated Mar 22, 1944. In German. 1.50
Supplement to patent application L 114 127 IXb/42b.

5614-5619 PB L 73166 LEITZ, L. (Inventor). Measuring device with an arrangement for correcting errors in distance measurement. Ger. design patent application L 38 876 gm 42b dated Feb 28, 1944. In German. 1.50
Supplement to patent application L 113 903 IXb/42b.

5620-5632 PB L 73166 SÄNGER, O. (Inventor). Arrangement for limitation of axial displacement of two, especially cylindrical telescoped bodies. Ger. design patent application L 38 917 gm 42h dated Feb 26, 1944. In German. 1.50
Supplement to patent application L 113 972 IXa/42h.

5633-5637 PB L 73166 SEIBERT, A. (Inventor). Microscope with direct illumination and at least partial image erection. Ger. design patent application L 38 636 gm 42h dated Jan 3, 1944. In German. 1.50
Supplement to patent application L 113 153 IXa/42h.

5638-5642 PB L 73166 LEITZ, L. (Inventor). Stereophotographic arrangement with two objectives and a frontal prism attachment. Ger. design patent application L 38 637 gm 57a dated Jan 3, 1944. In German. 1.50
Supplement to patent application L 113 455 IXa/42h.

5643-5647 PB L 73166 DURUR, H. (Inventor). Arrangement for adjusting sections on microscope stages. Ger. design patent application L 38 638 gm 42h dated Jan 3, 1944. In German. 1.50
Supplement to patent application L 113 455 IXa/42h.

5648-5652 PB L 73166 BEREK and others (Inventors). Arrangement for determination of the number of particles suspended in a solution. Ger. design patent application L 38 585 gm 42a dated Dec 18, 1943. In German. 1.50

5653-5670 PB L 73166 ROSENTHAL, G. (Inventor). Electric photometer. Ger. design patent application L 38 514 gm 42h dated Dec 4, 1943. In German. 1.50
Supplement to patent application L 113 221 IXa/42h.

5671-5676 PB L 73166 BROSCHKE, H. (Inventor). Boring spindle. Ger. design patent application L 38 502 gm 49a dated Nov 30, 1943. In German. 1.50

5677-5681 PB L 73166 KALENSEE, W. and others (Inventors). Centrifugal arrangement for producing layers of silicic acid and similar compounds on optically effective planes, especially glass surfaces. Ger. design patent application L 38 411 gm 32b dated Nov 13, 1943. In German. 1.50
Supplement to patent application L 113 093 VIb/32b.

5682-5687 PB L 73166 LUDEWIG, M. (Inventor). Telescope. Ger. design patent application L 38 410 gm 42h dated Nov 13, 1943. In German. 1.50
Supplement to patent application L 113 090 IXa/42h.

5688-5693 PB L 73166 RINKER, W. (Inventor). Mirror mounting for optical measuring and testing instruments. Ger. design patent application L 38 343 gm 42h dated Oct 29, 1943. In German. 1.50
Supplement to patent application L 112 943 IXa/42h.

5694-5698 PB L 73166 BECKER, H. (Inventor). Boring spindle according to German Patent 665 058. Ger. design patent application L 38 200 gm 49a dated Sep 17, 1943. In German. 1.50
Supplement to patent application L 112 665 Ib/49a.

5699-5704 PB L 73166 WAGNER, A. (Inventor). Camera release mechanism. Ger. design patent application L 38 093 gm 57a dated Aug 28, 1943. In German. 1.50
Supplement to patent application L 112 475 IXa/57a.

5705-5714 PB L 73166 KALENSEE W. and others (Inventors). Arrangement for coating several planes of a body by vaporization in a vacuum. Ger. design patent application L 38 078 gm 48b dated Aug 19, 1943. In German. 1.50
Supplement to patent application L 112 461 VIa/48b.

5715-5721 PB L 73166 SCHÄFER, W. (Inventor). Hydraulic feeding arrangement for tooling machines, e.g., lathes, milling machines or the like. Ger. design patent application L 37 998 gm 49a dated Jul 31, 1943. In German. 1.50
Supplement to patent application L 112 301 Ib/49a.

5722-5726 PB L 73166 SCHÄFER, W. (Inventor). Tooling machine with feeding arrangement for the tool or workpiece. Ger. design patent application L 38 199 gm 49b dated Jul 9, 1943. In German. 1.50
Supplement to patent application L 112 664 Ib/49b.

5727-5734 PB L 73166 SCHÄFER, W. (Inventor). Infinitely variable friction gear. Ger. design patent application L 37 896 gm 47h dated Jul 9, 1943. In German. 1.50
Supplement to patent application L 112 091 XII/47h.

PB L 73197. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patent applications for optical instruments and accessories. (FIAT Microfilm Reel N 10, Frames 6776-7750) 1921-1937. 975 f. Price: Microfilm-$6.00 - Enlargement Print-$97.50
This FIAT microfilm reel consists of 14 patent applications and correspondence with the German Patent Office, etc., for optical instruments and accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
6776-6817 PB L 73197	SCHÖFER (Inventor). Universal revolving stage for microscope theodolite method. Ger. patent application L 79 592 IX/42h dated Oct 17, 1931. In German. Drawings.	$4.50
6818-6835 PB L 73197	KRAUSS, E. (Inventor). Shutter for roll-film cameras. Ger. patent application K 79 030 IX/57a dated Nov 15, 1930. In German.	2.00
6836-6949 PB L 73197	BEREK, M. (Inventor). Rapid objective. Ger. patent application L 78 572 IX/42h dated Jun 6, 1931. In German. Drawings.	11.50
6950-6990 PB L 73197	BECKER (Inventor). Plane table. Ger. patent application L 80 149 IX/42b dated Jan 7, 1932. In German. Drawings.	4.50
6991-7061 PB L 73197	LEITZ, L. (Inventor). Roll-film camera. Ger. patent application L 90 415 IXa/57a dated May 20, 1936. In German. Drawings. A few frames will not reproduce well.	7.50
7062-7120 PB L 73197	SCHÄFER (Inventor). Color mixing apparatus for photometers. Ger. patent application L 92 885 IXa/42h dated Jul 13, 1937. In German. Drawing. Includes an article on a new arrangement for color compensation in photometric measurements by von Voss published in an undated issue of "Zeitschrift für Beleuchtungswesen, Heizung- und Lüftungstechnik."	6.00
7121-7168 PB L 73197	LEITZ, L. (Inventor). Focal plane shutter. Ger. patent application L 78 913 IX/57a dated Jul 20, 1931. In German. Drawings.	5.00
7169-7322 PB L 73197	LIHOTZKY and others (Inventors). Illumination arrangement for microscopes. Ger. patent application L 74 137 IX/42h dated Jan 31, 1929. In German. Drawings. Includes an article by Dr. A. Klughardt on microphotographic dark-field pictures of paper and textiles published in the "Blätter für Untersuchungs- und Forschungsinstrumente," Aug 1927.	15.50
7323-7412 PB L 73197	BARNACK, O. (Inventor). Range finder with a view finder for photographic apparatus. Ger. patent application L 79 604 IX/57a dated Oct 17, 1931. In German. Drawings.	9.00
7413-7495 PB L 73197	LIHOTZKY (Inventor). Optical arrangement, especially for the production of stereographs. Ger. patent application L 73 902 IX/42h dated Jan 8, 1921. In German. Drawings.	8.50
7496-7552 PB L 73197	NOACK (Inventor). Arrangement for attaching films to the spool. Ger. patent application L 83 059 /57a dated Feb 3, 1933. In German.	6.00
7553-7710 PB L 73197	BARNACK, O. (Inventor). Camera with a reflex range-finder directly geared to the objective mounting. Ger. patent application L 79 603 /57a dated Oct 17, 1931. In German. Drawings.	16.00
7711-7750 PB L 73197	Adjustable focal plane shutter. Ger. patent application L 60 443 VI/57a dated Oct 22, 1924. In German. Drawing.	4.00
7751-7760 PB L 73197	STÜTZER, R. (Inventor). Direction finder. Ger. patent application St 40 095 IX/42c dated Nov 27, 1922. In German. Supplement to patent 398 603. Continued on Reel N 11, PB 73198. Drawings.	1.50

PB L 73129. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Patent matters and calculations with drawings for lenses. (FIAT Microfilm Reel I-9, Frames 3-1241). 1892-1945. 1239 f. Price: Microfilm-$6.00 - Enlargement Print-$124.00

This FIAT microfilm reel consists principally of German and other patents and patent and design patent applications issued to the Ernst Leitz G.m.b.H. and other German and foreign optical firms. There are also Leitz calculations and drawings for a number of optical instruments. 215 individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German, unless otherwise stated.

Frames	Title	Price
3-5 PB L 73129	Opera glasses with Sprenger prism, 3.2x. Objective f = 40.0 mm, ocular f = 12.5 mm. 1932. In German. Drawings of optics.	$1.50
6-29 PB L 73129	Stereoptical telescope 10x. 1939. In German. Drawings, graphs and calculation.	2.50
30-45 PB L 73129	Illumination for miniature film projectors - with Dimax objective f = 200. 1939-1940. In German. Photographs, drawings and calculations.	2.00
46-56 PB L 73129	Epis objectives f = 8 cm 1:3,6; f = 4 cm, 1:4; f = 10 cm, 1:3,6 and f = 325 mm 1:3,6. 1940. In German. Drawings and calculations.	1.50
57-59 PB L 73129	Photographic objective. French patent 822694, dated Jan 5, 1938. Application Gr 17-Cl. 3, dated Jun 4, 1937. In French. Drawing.	1.50
60-62 PB L 73129	Rapid objective. French patent 822807, dated Jan 8, 1938. Application Gr 17-Cl. 3, dated Jun 8, 1937. In French. Drawing.	1.50
63-64 PB L 73129	Very rapid objective. French patent 822753, dated Jan 7, 1938. Application Gr 12-Cl. 2, dated Jun 7, 1937. In French. Drawing.	1.50
65-68 PB L 73129	Photographic objective. German patent 647830, dated Jul 14, 1937. Application L 86671 IX/42h, dated Sep 27, 1934. In German. Drawing.	1.50
69-72 PB L 73129	Improvements in or relating to lens systems for rapid objectives. British patent 423468, dated Feb 1, 1935. Application 5397/34, dated Feb 19, 1934. In English. Drawing.	1.50
72-74 PB L 73129	Rapid objective. German patent 585456, dated Apr 23, 1934. Application L 78572 IX/42h, dated Jun 7, 1931. In German. Drawing.	1.50
75-76 PB L 73129	Rapid objective. German patent 526305, dated Jun 10, 1931. Application L 10930 IX/42h, dated Apr 13, 1930. In German. Drawing.	1.50
77-78 PB L 73129	Rapid objective. German patent 526307, dated Jun 5, 1931. Application L 73792 IX/42h, dated Dec 25, 1928. In German. Drawing.	1.50
79-79a PB L 73129	Asymmetric objective. German patent 343086, dated Oct 29, 1921. Application Cl 42h, group 4, dated Oct 9, 1920. In German. Drawing.	1.50
80-81 PB 73129	Spherically, chromatically and astigmatically corrected objective. German patent 118433, dated Mar 5, 1901. Application 42h, dated Jul 16, 1899. In German. Drawing.	1.50
82-83 PB L 73129	Spherically, chromatically and artigmatically corrected asymmetric objective. German patent 116409, dated Jan 29, 1901. Application 42h, dated Oct 26, 1898. In German. Drawing.	1.50
84-87 PB L 73129	Objective with three collective and two dispersing members, the dispersive members having a meriscular form. German design application 1285902, dated Dec 8, 1933. In German. Drawing.	1.50
88-89 PB L 73129	Objective with two consecutive dispersive members. German design patent application (No. not given), n. d. In German. Drawing.	1.50
90-91 PB L 73129	Objective consisting of four collective and one dispersive members. German design patent application 1285901, n.d. In German. Drawing.	1.50
92 PB L 73129	Triplet. German design patent application 1255321, dated Feb 22, 1933. In German. Drawing.	1.50
93 PB L 73129	Teleobjective. German design patent application 1255322, dated Feb 22, 1933. In German. Drawing.	1.50
94 PB L 73129	Very rapid objective. German design patent application 1302075, dated Dec 27, 1933. In German. Drawing.	1.50
95 PB L 73129	Photographic objective. German design patent application 1340303, dated Jan 14, 1935. In German. Drawing.	1.50
96 PB L 73129	Objective consisting of three collective and two dispersive members, the dispersive members having meniscular form. German design patent application 1255902, dated Dec 8, 1933. In German. Drawing.	1.50
97-98 PB L 73129	Reflex view-finder for photographic apparatus. German patent 672112, dated Feb 20, 1939. Application L 89964 IX/42h, dated Mar 17, 1936. In German. Drawing.	1.50
99-106 PB L 73129	Periodical "Die Photographische Industrie," vol. 41. Oct 11, 1939. In German.	1.50
107-109 PB L 73129	Periodical "Kinotechnisch Rundschau," vol. 41. Oct 11,1939. In German.	1.50
110-114a PB L 73129	KODAK-PATHE, PARIS. Photographic optics. French patent 838236, dated Mar 1, 1938. Application Gr 17 Cl 3, dated May 21, 1938. In French. Drawings.	1.50
115-116 PB L 73129	Spherically, chromatically and astigmatically corrected objective consisting of four lenses separated into two groups by the diaphragm. German patent 442294, dated Jul 4, 1923. Application 42 h, dated Apr 25, 1922. In German. Drawing.	1.50
117-118 PB L 73129	SCHNEIDER, JOS., & CO., BERLIN. Asymmetrical photographic objective.	

German patent 667453, dated Nov 11, 1938. Application Sch 107810 IX/42 h, dated Aug 27, 1935. In German. 1.50
Drawing.

119-120 PB L 73129 Asymmetrical objective. German patent 343086. Application 42 h, dated Oct 9, 1920. In German. 1.50
Drawing.

121-122 PB L 73129 SCHNEIDER, JOS., & CO., KREUZNACH, GERMANY. Unsymmetrical photographic objective. U. S. patent 2,084,714, dated Jun 22, 1937. Application 46,809, dated Oct 25, 1935. Inventor: Tronnier, A. In English. 1.50
Drawing.

123-126 PB L 73129 SCHNEIDER, JOS., & CO., KREUZNACH, GERMANY. Asymmetrical objective with six free surfaces. German patent 581472, dated Aug 13, 1933. Application Sch 91103 IX/42 h, dated Aug 2, 1929. Inventor: Tronnier, A. In German. 1.50

127-128 PB L 73129 ZEISS, CARL. Spherically, chromatically and astigmatically corrected photographic lens. German patent 463739, dated Aug 2, 1928. Application Z 16134 IX/42 h, dated Jun 27, 1926. In German. 1.50
Drawing.

129-132 PB L 73129 SCHNEIDER, JOS., & CO., KREUZNACH, GERMANY. (Same as frames 123-126). German patent 581472, dated Aug 13, 1933. In German. 1.50

133-137 PB L 73129 EASTMAN KODAK COMPANY, ROCHESTER, N.Y. Lens system. U. S. patent 2,158,178, dated May 16, 1939. Application 144201, dated May 22, 1937. In English. 1.50
Drawing. Including Leitz calculation of the patented system.

138-139 ZEISS, CARL. Photographic objective consisting of three members. German patent 603325, dated Sep 29, 1934. Application Z 26630/42 h, dated Jun 18, 1930. In German. 1.50
Drawing.

140-141 PB L 73129 ZEISS, CARL. Same as frames 127-128. German patent 463739, dated Aug 2, 1928. In German. 1.50

142-146 PB L 73129 KODAK-PATHE, PARIS, FRANCE. Improved photographic objectives. French patent 838,237, dated Mar 1, 1939. Application Gr 17 Cl 13, dated May 21, 1938. In French. 1.50
Drawing.

147-159 PB L 73129 EASTMAN KODAK COMPANY, ROCHESTER, N.Y. Lens. U. S. patent 2,165,328, dated Jul 11, 1939. Application 202485, dated Apr 16, 1938. Inventor: Alkin, G. and others. In English. 1.50
Drawing. Including Leitz calculation of the patent.

160-164 PB L 73129 SCHNEIDER, JOS., & CO., BERLIN. Asymmetrical photographic objective. German patent application Sch 108156 IX/42 h, dated Nov 1935. In German. 1.50
Drawing.

165-173 PB L 73129 Periodical "Die Photographische Rundschau," vol. 42. Oct 18, 1938. In German. 1.50

174-209 PB L 73129 Calculations for a photographic objective patented by Carl Zeiss, Jena, under D.R.P. 652882, 1:3,5 f = 1,0. 1936. In German. 4.00
Drawing and graphs.

210-225 PB L 73129 Calculations for a photographic objective 1:1,5 f = 99,97 described in I.G. Farben patent application G.M. 1525136/42 h. 1943. In German. 2.00
Drawings and diagrams.

226-229 PB L 73129 RUDOLPH, P. (Inventor). Lens system consisting of at least four members separated by air space. German patent 456912, dated Mar 5, 1928. Application R 68481 IX/42 h, dated Aug 19, 1926. In German. 1.50
Drawing.

230-272 PB L 73129 KAPELLA, LTD. Lens. U. S. patent 2,130,760, dated Sep 20, 1938. Application 140,789, dated May 5, 1937. Inventor: Warmisham, A. In English. 4.50
Drawings. Including Leitz drawings, graphs and calculations for the patented lens and copy of the German patent application.

273-283 PB L 73129 KAPELLA, LTD. Lens for photography etc. U. S. patent 2,117,252, dated May 10, 1938. Application 116,283, dated Dec 17, 1936. Inventor: Lee, H. In English. 1.50
Drawing. Including Leitz calculations for the lens.

284-286 PB L 73129 KAPELLA, LTD. Improvements in lenses for photography etc. British patent 377,537, dated Jul 28, 1932. Application 31,561/31, dated Nov 14, 1937. Inventor: Lee, H. and others. In English. 1.50
Drawing.

287-291 PB L 73129 KAPELLA LTD. Lens. U. S. patent 1,955,591, dated Apr 17, 1934. Application 642193, dated Nov 11, 1932. Inventor: Lee, H. In English. 1.50
Drawing.

292-295 PB L 73129 REICHERT, C. (Inventor). Photographic objective. French patent 317723, dated Jun 3, 1902. In French. 1.50
Drawing.

296-299 PB L 73129 HASSELKUSS, J. and others. (Inventors). Improvements in and relating to objectives suitable for photographic purposes. British patent 323,138, dated Dec 24, 1929. Application 2885/29, dated Jan 28, 1929. In English. 1.50
Drawing.

300-302 PB L 73129 ZEISS, CARL. Three-lens objective system consisting of two members. Austrian patent 53908, dated Jun 10, 1912. Application 42 h, dated Jul 31, 1911. 1.50
Drawing.

303 PB L 73129 LEE, H. (Inventor). Lens. U. S. patent 1,779,257, dated Oct 21, 1930. Application 331,434, dated Oct 10, 1928. In English. 1.50
Drawing.

304-305 PB L 73129 KAPELLA LTD. Improvements in lenses. French patent 333,065, dated Aug 7, 1930. Application 25,825/29, dated Aug 24, 1929. Inventor: Warmisham, A. In French. 1.50
Drawing.

306-309 PB L 73129 TAYLOR, TAYLOR & HOBSON LTD., LEICESTER, ENGLAND. Improvements in lenses for photography and the like. British patent 157,040, dated Jan 20, 1921. Application 23,805/20, dated Aug 14,

1920. Inventor: Lee, H. In English. 1.50
Drawing

310 PB L 73129 LEE, H. (Inventor). Lens. U. S. patent 1,779,257, dated Oct 21, 1930. Application 311,434, dated Oct 10, 1928. In English. 1.50
Drawing.

310-314 PB L 73129 ZEISS, CARL. Objective corrected spherically, chromatically, astigmatically and for coma. U. S. patent 1,786916, dated Dec 30, 1930. Application 304,470, dated Sep 7, 1928. Inventor: Merté, W. In English. 1.50
Drawing.

315-316 PB L 73129 ZEISS, CARL. Photographic objective corrected spherically, chromatically, astigmatically and for coma. German patent 485796, dated Nov 14, 1929. Application Z 17059 IX/42 h, dated Sep 30, 1927. In German. 1.50
Drawing.

317-319 PB L 73129 SCHEIDER, JOS., & CO., BADKREUZNACH. Photographic objective. German patent 439556, dated Jan 13, 1927. Application Sch 73985 IX/42 h, dated Apr 30, 1925. Inventor: Tronnier, A. In German. 1.50
Drawing.

320-321 PB L 73129 RUDOLPH, P. Objective consisting of a concave-convex dispersive lens facing the object and a collective lens a certain distance from it. German patent 420223, dated Oct 19, 1925. Application R 60240 IX/42 h, dated Feb 7, 1924. In German. 1.50
Drawing.

322-323 PB L 73129 REICHERT, C. Spherically, chromatically and astigmatically corrected photographic objective. Austrian patent 33776, dated Jul 25, 1908. Application 42 h, dated May 31, 1907. 1.50
Drawing.

324-328 PB L 73129 KAPELLA, LTD. Large aperture lenses with improved color correction. British patent 321,076, dated Oct 31, 1929. Application 34,316/28, dated Nov 22, 1928. Inventor: Lee, H. In English. 1.50
Drawing.

329-351 PB L 73129 TAYLOR, TAYLOR & HOBSON LTD., LEICESTER, ENGLAND. Improvements in lenses for photography and the like. British patent 157,040, dated Jan 20, 1921. Application 23,805/20, dated Aug 14, 1920. Inventor: Lee, H. In English. 2.50
Drawing. Including Leitz calculation of the patented lenses.

352-353 PB L 73129 SOCIÉTÉ D'OPTIQUE ET DE MECHANIQUE DE HAUTE PRÉCISION, PARIS, FRANCE. Large aperture and wide-angle-of-view objective for photographic and motion-picture purposes. French patent 804,143, dated Jul 27, 1936. Application Gr 17 Cl 3, dated Jul 8, 1935. In French. 1.50
Drawing.

354-356 PB L 73129 KAPELLA LTD. Photographic lenses consisting of a pair of meniscus dispersive members with their concave surfaces facing one another, placed between outer collective members. U. S. patent 2,019,985, dated Nov 5, 1935. Application 504,844, dated Dec 26, 1930. Inventor: Lee, H. In English. 1.50
Drawing.

357-359 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Rapid objective with spherical, chromatic and astigmatic correction. German patent 565566, dated Dec 2, 1932. Application 42 h Sch 26430, dated Sep 2, 1930. Inventor: Tronnier, A. In German. 1.50
Drawing.

360-379 PB L 73129 KAPELLA, LTD. Improvements in photographic and projection lenses. British patent 373,950, Jun 2, 1932. Application 35,523/31, dated Dec 23, 1931. In English. 2.00
Drawing. Including Leitz calculations, drawings and graphs for lenses covered by the patent.

380-397 PB L 73129 BAUSCH & LOMB OPTICAL CO., ROCHESTER, N.Y. Photographic objective. U. S. patent 2,124,356, dated Jul 19, 1938. Application 124,599, dated Feb 8, 1937. Inventor: Rayton, W. In English. 2.00
Drawing. Including Leitz calculations, drawings and graphs for the objective covered by the patent.

398-400 PB L 73129 ZEISS, IKON, A. G., DRESDEN, GERMANY. Photographic objective. German patent 530843, dated Aug 21, 1931. Application B 145132 IX/42 h, dated Aug 14, 1929. In German. 1.50
Drawing.

401-403 PB L 73129 ZEISS IKON A. G., DRESDEN, GERMANY. Photographic objective. German patent 570983, dated Feb 21, 1933. Application Z 19528 IX/42 h, dated Aug 14, 1929. In German. 1.50
Drawing.

404-407 PB L 73129 KAPELLA, LTD. Improvements in lenses. British patent 435,947, dated Oct 2, 1935. Application 20992/34, dated Jul 18, 1934. Inventor: Lee, H. In English. 1.50
Drawings.

408-414 PB L 73129 ZEISS IKON A. G., DRESDEN, GERMANY. Rapid objective. German design patent application 42 h Z 1237755, dated Dec 18, 1931. In German. 1.50
Drawing. Including Leitz calculations for the objective.

415-438 PB L 73129 K. K. KONISHI-ROKU, TOKYO, JAPAN. Lens combination suitable for wide-angle lenses. Japanese patent 136366, n. d. Application 13282, dated Sep 29, 1938. Japanese text with German translation. 2.00
Drawing. Including Leitz calculation for the lens combination.

439-443 PB L 73129 EASTMAN KODAK CO., ROCHESTER, N. Y. Photographic objective. U. S. patent 2,158,179, dated May 16, 1939. Application 144,202, dated May 22, 1937. Inventor: Frederick, C. and others. In English. 1.50
Drawing. Including Leitz calculations for the patented objective.

443-450 PB L 73129 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. A very rapid lens system. French patent 837115, dated Feb 2, 1939. Application Gr 12 Cl 2, dated Apr 25, 1939. In French. 1.50
Drawing. Including Leitz calculations for the system.

451-454 PB L 73129 ZEISS IKON A. G., DRESDEN, GERMANY. Very rapid objective. French patent 837616, dated Feb 15, 1939. Application Gr 12 Cl 2, dated May 6, 1938. In French. 1.50
Drawing.

455-458 PB L 73129 ZEISS, CARL. Four-lens photographic objective. German patent 638,246, dated Nov 28, 1938. Application Gr 17 Cl 3, dated May 21, 1938. In German. 1.50
Drawing.

459-461 PB L 73129 BIELICKE, W. (Inventor). Photographic objective. German patent 634843, dated Sep 4, 1936. Application B 147919 IX/42 h, dated Jan 23, 1931. In German. 1.50
Drawing.

462-465 PB L 73129 BIELICKE, W. (Inventor). Photographic objective. German patent 538872, dated Mar 29, 1932. Application 42 h B 12930, dated Apr 29, 1930. In German. 1.50
Drawing. Including Leitz calculations for the objective.

466-485 PB L 73129 ZEISS IKON, A. G., DRESDEN, GERMANY. Photographic objective. German patent application Z 21819 IX/42 h, dated Jun 16, 1934. In German. 1.50
Drawing. Including Leitz calculations for the objective.

486-492 PB L 73129 BUSCH, EMIL, A. G., RATHENOW, GERMANY. Rapid photographic objective. German design patent application B 37490 Gm42h, n. d. In German. 1.50
Drawing. Including Leitz calculations for the objective.

493-495 PB L 73129 MEYER, HUGO, & CO., GÖRLITZ (SILESIA) GERMANY. Rapid multilens objective. German design patent application 1,387,593, dated Jun 17, 1936. In German. 1.50
Drawing. Including Leitz calculations.

496-499 PB L 73129 KAPELLA, LTD. Lens for photographic and like purposes. U. S. patent 2,012,822, dated Aug 27, 1935. Application 736,161, dated Jul 30, 1934. In English. 1.50
Drawing.

500-501 PB L 73129 VOIGTLÄNDER & SOHN A. G., BRAUNSCHWEIG, GERMANY. Objective corrected spherically, chromatically, astigmatically and for coma. German patent application V 29877 IX.42 h, dated Aug 28, 1933. In German. 1.50
Drawing.

502-509 PB L 73129 ZEISS, CARL. Ocular. German patent application Z 21723, May 14, 1934. In German. 1.50
Drawing.

510-517 PB L 73129 MEYER, HUGO, & CO., GÖRLITZ, GERMANY. Photographic objective. German patent application J 294071, dated Mar 2, 1940. In German. 1.50
Suppl. to patent 694071.

518-521 PB L 73129 MELLER, R. (Inventor). Soft-drawing optical filter. German patent application M 143309 IX/42 h, dated Nov 1, 1938. In German. 1.50
Drawing.

522-527 PB L 73129 ZEISS, CARL. Photographic tele-objective. German patent application Z 23266 IXa/42 h, dated Jun 22, 1936. In German. 1.50
Drawing.

528-532 PB L 73129 KODAK A. G., BERLIN, GERMANY. Petzval objective. German patent application K 151952 IX/42 h, dated Sep 21, 1938. Inventor: Schade, W. In German. 1.50
Drawing.

533-538 PB L 73129 KODAK A. G., BERLIN, GERMANY. Photographic meniscus objective. German patent application K 152133 IXa/42 h, dated Oct 18, 1938. Inventor: Ort, C. In German. 1.50
Drawing.

539-541 PB L 73129 ZEISS, CARL. Spherically, chromatically and astigmatically corrected objective for photography. German patent 485798, dated Nov 14, 1929. Application Z 17059 IX.42 h, dated Sep 30, 1927. In German. 1.50
Drawing.

542-551 PB L 73129 ZEISS, CARL. Anastigmatic objective for photography and reproduction. German design patent application Z 389881 IXa/42 h, dated Jun 21, 1933. In German. 1.50
Drawings.

552-555 PB L 73129 ZEISS IKON A. G., DRESDEN, GERMANY. Objective. U. S. patent 1,975,678, dated Oct 2, 1934. Application 678817, dated Jul 3, 1933. In English. 1.50
Drawing.

556-557 PB L 73129 VOIGTLÄNDER & SOHN A. G., BRAUNSCHWEIG, GERMANY. Photographic teleobjective. German patent 444150, n. d. Application V 19941 IX/42 h, dated Feb 18, 1925. In German. 1.50
Drawing.

558-559 PB L 73129 GEHRKE, F. (Inventor). Photographic objective. German patent 403706, dated Oct 7, 1924. Application G 54674 IX/42 h, dated Sep 1, 1921. In German. 1.50
Drawing.

560-562 PB L 73129 RUDOLPH, P. (Inventor). Objective consisting of a concave-convex dispersive lens facing the object and a collective lens following a certain a certain distance behind it. German patent 420825, dated Oct 31, 1925. Application R 60450 IX/42 h, dated Feb 29, 1924. In German. 1.50
Drawing.

563-564 PB L 73129 ZEISS, CARL. Spherically, chromatically and astigmatically corrected objective. German patent 436734, dated Nov 6, 1926. Application Z 14612 IX/42 h, dated Aug 3, 1924. In German. 1.50
Drawing.

565-566 PB L 73129 GOERZ, C. P., A. G., BERLIN, GERMANY. Spherically, chromatically and astigmatically corrected distortion-free photographic objective. German patent 425146, dated Feb 16, 1926. Application O 14740 IX/42h, dated Feb 13, 1925. In German. 1.50
Drawing.

567-569 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Photographic objective. German patent 544329, dated Mar 24, 1932. Application Sch 83426 IX/42 h, dated Jul 31, 1927. Inventor: Tronnier, A. In German. 1.50
Patent application supplement 544329 IX/42h. Drawing.

570-573 PB L 73129 GOERZ, C. P., A. G., BERLIN, GERMANY. Two-lens photographic objective. German patent 413536, dated May 11, 1925. Application O 13827 IX/42 h, dated Aug 14, 1923. In German. 1.50
Drawing.

574-575 PB L 73129 ERNEMANN-WERKE A. G., DRESDEN, GERMANY. Photographic objective. German patent 435762, dated Oct 19, 1926. Application E 31440 IX/42 h, dated Oct 25, 1924. In German. 1.50
Drawing.

576-577
PB L 73129
GOERZ, C. P., A. G., BERLIN, GERMANY. Photographic objective consisting of four systems separated by air space. German patent 428825, dated May 14, 1926. Application O 14739 IX/42 h, dated Feb 13, 1935. In German. 1.50
Drawing.

578-580
PB L 73129
SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Photographic objective. German patent 439556, dated Jan 13, 1927. Application Sch 73985 IIa/42 h, dated Apr 30, 1925. Inventor: Tronnier, A. In German. 1.50
Drawing.

581-583
PB L 73129
ZEISS, CARL. Photographic lens consisting of four members. German patent 535197, dated Oct 7, 1931. Application Z 18582 IX/42 h, dated Sep 11, 1929. In German. 1.50
Drawing.

584-586
PB L 73129
TRONNIER, A. (Inventor). Photographic objective consisting of three individual lenses. German patent 501065, dated Jul 10, 1930. Application T 32037 IX/42 h, dated Jun 30, 1926. In German. 1.50
Drawing.

587-589
PB L 73129
KISLYN CORPORATION, WILMINGTON, DEL. Objective. German patent 604490, dated Oct 22, 1934. Application K 124455, dated Mar 12, 1931. In German. 1.50
Drawing.

590-591
PB L 73129
BUSCH, EMIL, A. G., RATHENOW, GERMANY. Objective with a variable focal length. German patent 597354, dated May 25, 1934. Application B 149551 IX/42 h, dated Apr 19, 1931. In German. 1.50
Drawing.

592-593
PB L 73129
POLACK, A. (Inventor). Superchromatic objective. German patent 431279, dated Jul 9, 1926. Application P 44711 IX/42 h, dated Aug 2, 1922. In German. 1.50
Drawing.

594-596
PB L 73129
STEINHEIL, C. A, SÖHNE, MUNICH, GERMANY. Photographic objective with exchangeable members. German patent 434759, dated Sep 29, 1926. Application St 38850 IX/42 h, dated Dec 19, 1924. In German. 1.50
Drawing.

597-601
PB L 73129
I. G. FARBENINDUSTRIE A. G., FRANKFURT-MAIN, GERMANY. Objective composed of interchangeable lens sets. German patent application R 68902 IX/42 h, dated Mar 5, 1926. Inventor: Gehrke, F. In German. 1.50
Drawings.

602-607
PB L 73129
SOCIÉTÉ TECHNIQUE D'OPTIQUE ET DE PHOTOGRAPHIE, SAINT-CUEN, FRANCE. Anamorphotic multiple objective. German patent 529263. Application S 82968 IX/42 h, dated Dec 9, 1926. In German. 1.50
Drawings.

608-611
PB L 73129
RUDOLPH, P. (Inventor). Objective consisting of a concave-convex dispersive lens facing the object and a collective lense arranged behind it. German patent 420223, dated Oct 19, 1925. Application R 60240 IX/42 h, dated Feb 7, 1924. In German. 1.50
Drawings.

612-614
PB L 73129
SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Teleobjective. German patent 487271, dated Dec 11, 1929. Application Sch 83812 IX/42 h, dated Sep 3, 1927. In German. 1.50
Drawing.

615-619
PB L 73129
ALLGEMEINE ELEKTRICITÄTS - GESELLSCHAFT, BERLIN, GERMANY. Wide-angle objective. German patent 677592, dated Jun 26, 1939. German application dated Oct 15, 1931. Inventor: Schulz, H. In German. 1.50
Drawing.

620-622
PB L 73129
EASTMAN KODAK CO., ROCHESTER, N. Y. Lens. U. S. Patent 2,158,201, dated May 16, 1939. Application 175,474, dated Nov 19, 1937. Inventor: Schade, W. In English. 1.50
Drawing.

623-625
PB L 73129
EASTMAN KODAK CO., ROCHESTER, N. Y. Lens system. U. S. patent 2,153,202. Application 175,473, dated Nov 19, 1937. Inventor: Schade, W. In English. 1.50
Drawing.

626-628
PB L 73129
ZEISS, CARL. Telescope objective. U. S. patent 2,158507, dated May 16, 1939. Application 147,833, dated Jun 12, 1937. Inventor: König, A. In English. 1.50
Drawing.

629-645
PB L 73129
PARAMOUNT PRODUCTIONS, INC., LOS ANGELES, CALIFORNIA. Variable equivalent focal length lens. U. S. patent 2,159,394. Application 84304, dated Jun 9, 1936. Inventor: Mellor, L. and others. In English. 2.00
Drawings.

646-647
PB L 73129
ZEISS IKON A. G., DRESDEN, GERMANY. Photographic objective. French patent 839,633, dated Apr 7, 1939. Application Gr 17 Cl 3, dated Jun 22, 1938. In French. 1.50
Drawing.

648-653
PB L 73129
FELIX, D. (Inventor). Photographic objective with very large aperture. Czechoslovakian patent application 843-37/42 h, dated Feb 9, 1937. 1.50
Drawings.

654-657
PB L 73129
RUDOLPH, P. (Inventor). Photographic objective. German patent 401630, dated Sep 6, 1934. Application R 57634 IX/42 h, dated Dec 31, 1922. In German. 1.50
Drawing.

658-660
PB L 73129
GOERZ, C. P. Spherically, chromatically and astigmatically corrected three-lens objective. German patent 107358, dated Dec 19, 1899. Application Cl 57: Photography, dated Jan 22, 1899. In German. 1.50
Drawings.

661-670
PB L 73129
C-LENS CORPORATION, NEW YORK, N. Y. Lens system. U. S. patent 2,130,347, dated Sep 20, 1938. Application 745144, dated Sep 22, 1934. Inventor: Holst, L. and others. In English. 1.50
Drawings.

671-673
PB L 73129
ELECTRICAL RESEARCH PRODUCTS, INC., NEW YORK, N. Y. Optical system. U.S. patent 2,142,297, dated Jan 3, 1939. Application 147,214, dated Jun 9, 1937. Inventor: Albersheim, W. and others. In English. 1.50
Drawing.

674-675 PB L 73129 BROCK, ARTHUR, JR. Improvement in film supports for cameras. U. S. patent 1,315,307, dated Sep 9, 1919. Application 212,343, dated Jan 17, 1918. Inventor: Holst, L. In English. 1.50
Drawing.

676-680 PB L 73129 ZEISS, CARL. Photographic objective. U. S. patent 2,140,024, dated Dec 13, 1938. Application 134,282, dated Apr 1, 1937. Inventor: Merté, W. In English. 1.50
Drawings.

681-683 PB L 73129 LÉVY, ANDRÉ. Objective with a large aperture. French patent 837,276, dated Feb 7, 1939. Application Gr 12 Cl 2, dated Apr 29, 1938. In French. 1.50
Drawing.

684-686 PB L 73129 ERNEMANN-WERKE A. G., DRESDEN, GERMANY. Photographic objective consisting of three collective members and a dispersive member arranged behind the second collective member. German patent 436260, dated Oct 28, 1926. Application E 31682 IX/42 h, dated Dec 6, 1924. In German. 1.50
Drawing.

687-689 PB L 73129 GRAMATZKI, H. (Inventor). Photographic system on the order of a Petzval objective. German patent 535883, dated Feb 4, 1933. Application G 76828 IX/42 h, dated Jun 30, 1929. In German. 1.50
Drawing.

690-692 PB L 73129 BIELICKE, W. (Inventor). Photographic objective. German patent 538872, dated Mar 29, 1932. Application 42 h B 129 30, dated Apr 29, 1930. In English. 1.50

693-698 PB L 73129 FELIX, D. (Inventor). Photographic objective with a large aperture. Swiss patent 196705, dated Jun 16, 1938. Application Class 70, dated Feb 1, 1937. In French. 1.50
Drawings.

699-701 PB L 73129 HASSELKUSS, J. and others. (Inventors). Objective suitable for photographic purposes. U. S. patent 2,116,264, dated May 3, 1938. Application 147102, dated Jun 8, 1937. In English. 1.50
Drawing.

702-706 PB L 73129 Rapid objective. German patent 526308, dated Jun 10, 1931. Application 42 h L 109 30, dated Apr 13, 1930. In German. 1.50
Drawings.

707-709 PB L 73129 ZEISS IKON A. G., DRESDEN GERMANY. Photographic lens system. U. S. patent 2,084,309, dated Jun 22, 1937. Application 57,643, dated Jun 16, 1934. Inventor: Bertele, L. In English. 1.50
Drawing.

710-711 PB L 73129 KAPELLA, LTD. Lens. U. S. patent 2,100,291, dated Nov 23, 1937. Application 32,047, dated Jul 18, 1935. In English. 1.50

712-715 PB L 73129 SCHNEIDER, JOS., & CO., BERLIN, GERMANY. Corrected objective. U. S. patent 2,106,077, dated Jan 18, 1938. Application 78,451, dated May 7, 1936. In English. 1.50
Drawings.

716-717 PB L 73129 KAPELLA, LTD. Lens. U. S. patent 2,100,290, Nov 23, 1937. Application 25,563, dated Jun 8, 1935. In English. 1.50

718-720 PB L 73129 SCHNEIDER, JOS., & CO., BERLIN, GERMANY. Photographic objective. U. S. patent 2,105,799, dated Jan 18, 1938. Application 38,816, dated Aug 31, 1935. In English. 1.50
Drawing.

721-723 PB L 73129 BIELICKE, W. (Inventor). Photographic objective. German patent 634843, dated Sep 1, 1936. Application B 147919 IX/42 h, dated Jan 23, 1931. In German. 1.50
Drawing.

724-727 PB L 73129 Improvements in or relating to lens systems for rapid objectives. British patent 423,468, dated Feb 1, 1935. Application 5397/34, dated Feb 19, 1934. In English. 1.50
Drawing.

728-731 PB L 73129 Rapid objective. German patent 526307, Jun 5, 1931. Application L 73792 IX/42 h, dated Dec 25, 1928. In German. 1.50
Drawing.

732-733 PB L 73129 Photographic objective. German patent 647830, dated Jul 14, 1937. Application L 86671 IX/42 h, dated Sep 27, 1934. In German. 1.50
Drawing.

734-741 PB L 73129 SCHNEIDER, JOS., & CO., BERLIN, GERMANY. Photographic objective. U. S. patent 2,076,686, dated Apr 13, 1937. Application 38,815, dated Aug 31, 1935. Inventor: Tronnier, A. In English. 1.50
Drawing.

742-743 PB L 73129 EASTMAN KODAK CO., ROCHESTER, N. Y. Projection objective. U. S. patent 2,076,190, dated Apr 6, 1937. Application 745570, dated Sep 26, 1934. Inventor: Wood, D. In English. 1.50
Drawing.

744-748 PB L 73129 RUDOLPH, P. (Inventor). Lens system consisting of at least four members separated from one another by air space. German patent 456912, dated Mar 5, 1928. Application R 68481 IX/42 h, dated Aug 19, 1926. In German. 1.50
Drawings.

749-751 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Photographic objective. German patent 544329, dated Mar 24, 1932. Application Sch 83426 IX/42 h, n. d. In German. 1.50
Drawing.

752-757 PB L 73129 RUDOLPH, P. (Inventor). Rapid objective consisting of four members separated from one another by air space. German patent application R 82949 IX/42 h, dated Oct 5, 1921. In German. 1.50
Drawings.

758-760 PB L 73129 KAPELLA, LTD. Improvements in photographic and projection lenses. British patent 373,950. Application 35,623/31, dated Dec 23, 1931. In English. 1.50
Drawing.

761-764 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Method and arrangement for determination of the refraction coefficient by observation of angle limits. German patent 597609, May 31, 1934. Application 42 h Sch 229 30, dated

Aug 5, 1930. Inventor: Tronnier, A. In German. 1.50
Drawings.

765-770 PB L 73129 — Optical arrangement, particularly for the production of stereophotographs. German patent 548688. Application L 73902 IX/42 h, dated Jan 8, 1929. Inventor: Lihotzki, E. In German. 1.50
Drawing.

771-773 PB L 73129 — RIKLI-KEHLSTADT, H. (Inventor). Photographic exposure meter. German patent 501544, dated Jul 3, 1930. Application R 71066 IX/57e, dated Oct 30, 1926. In German. 1.50

774-777 PB L 73129 — GOERZ, C. P., A. G., BERLIN, GERMANY. Method for the production of artistically soft pictures. German patent 364003, dated Nov 16, 1922. Application O 11517 VI/57 b, dated Mar 11, 1920. In German. 1.50
Drawing.

778-779 PB L 73129 — GOERZ, C. P., A. G., BERLIN, GERMANY. Method for the production of artistically soft pictures. German patent 364004, dated Nov 16, 1922. Application O 12353, dated Jun 3, 1921. In German. 1.50
Supplement to patent 364003.

780-782 PB L 73129 — RÜO-OPTIK G.M.B.H., RÜDERSDORF N. BERLIN, GERMANY. Spherically, chromatically and astiguatically corrected photographic objective. German patent 461083, dated Jun 14, 1928. Application O 14788 IX/42 h, dated Mar 7, 1925. Inventor: Hahn, H. In German. 1.50
Drawing.

783-785 PB L 73129 — ZEISS, CARL. Rapid photographic lens consisting of four members separated from one another. German patent 607631, dated Jan 4, 1935. Application Z 20711 IX/42 h, dated Dec 31, 1932. In German. 1.50
Drawing.

786-787 PB L 73129 — GOERZ, C. P., A. G., BERLIN, GERMANY. Spherically, chromatically and astigmatically corrected, distortion-free photographic objective. German patent 425146, dated Feb 16, 1926. Application O 14740 IX/42 h, dated Feb 13, 1925. Inventor: Richter, R. In German. 1.50

788-789 PB L 73129 — GEHRKE, F. (Inventor). Photographic objective. German patent 403706, dated Oct 7, 1924. Application G 54674 IX/42 h, dated Sep 1, 1921. In German. 1.50
Drawing.

790-792 PB L 73129 — GOERZ, C. P., A. G., BERLIN. Photographic objective consisting of two parts. German patent 413536, dated May 11, 1925. Application O 13827 IX/42 h, dated Aug 14, 1923. In German. 1.50
Drawings.

793-794 PB L 73129 — ZEISS, CARL. Spherically, chromatically corrected objective. German patent 436734, dated Nov 6, 1926. Application Z 14612 IX/42 h, dated Aug 3, 1924. In German. 1.50
Drawing.

795-797 PB L 73129 — RUDOLPH, P. (Inventor). Objective consisting of one concave-convex dispersive lens facing the object and one concave-convex collective lens behind it. German patent 420825, dated Oct 31, 1925. Application R 60450 IX/42 h, dated Feb 29, 1924. In German. 1.50
Drawing.

798-799 PB L 73129 — GOERZ, C. P., A. G., BERLIN, GERMANY. Photographic objective consisting of four systems separated from one another by air space. German patent 428825, dated May 14, 1926. Application O 14739 IX/42 h, dated Feb 13, 1925. In German. 1.50
Drawing.

800-801 PB L 73129 — POLACK, A. (Inventor). Superchromatic objective. German patent 431279, dated Jul 9, 1926. Application P 14711 IX/42 h, dated Aug 2, 1922. In German. 1.50

802-804 PB L 73129 — STEINHEIL, C. A., SÖHNE, MUNICH, GERMANY. Lens with interchangeable members. German patent 434759, application St 38850 IX/42 h, dated Dec 19, 1924. In German. 1.50
Drawings.

805-806 PB L 73129 — ERNEMANN-WERKE A. G., DRESDEN, GERMANY. Photographic objective. German patent 435762, Oct 19, 1926. Application E 31449 IX/42 h, dated Oct 25, 1924. Inventor: Bertele, L. In German. 1.50
Drawing.

807-808 PB L 73129 — VOIGTLÄNDER & SOHN A. G., BRAUNSCHWEIG, GERMANY. Photographic teleobjective. German patent 444150, May 24, 1927. Application V 19941 IX/42 h, dated Feb 18, 1925. Inventor: Deser, H. In German. 1.50
Drawing.

808-813 PB L 73129 — I. G. FARBENINDUSTRIE A. G., FRANKFURT-MAIN, GERMANY. Photographic objective composed of interchangeable lens sets. German patent 472234, dated Mar 5, 1929. Application R 66902, dated Mar 5, 1926. Inventor: Gehrke, F. In German. 1.50
Drawings.

814-816 PB L 73129 — SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Teleobjective. German patent 487271, dated Dec 11, 1929. Application Sch 83812, dated Sep 3, 1927. In German. 1.50
Drawing.

817-819 PB L 73129 — TRONNIER, A. (Inventor). Photographic objective consisting of three individual lenses. German patent 501068, dated Jul 10, 1930. Application T 32037 IX/42 h, dated Jun 30, 1926. In German. 1.50
Drawing.

820-825 PB L 73129 — SOCIÉTÉ TECHNIQUE D'OPTIQUE ET DE PHOTOGRAPHIE, SAINT-OUEN, FRANCE. Anamorphotic multiple objective. German patent 529563, dated Jul 15, 1931. Application S 82968 IX/42 h, Dec 9, 1927. In German. 1.50
Drawing.

826-828 PB L 73129 — ZEISS, CARL. Photographic lens consisting of four members. German patent 535197, dated Oct 7, 1931. Application Z 18582 IX/42 h, dated Sep 11, 1929. In German. 1.50
Drawing.

829-831 PB L 73129 — ZEISS, CARL. Photographic lens. German patent 558058, dated Sep 1, 1932. Application Z 17917 IX/42 h, dated Oct 24, 1928. In German. 1.50
Drawing.

832-838 PB L 73129 — BUSCH, EMIL, A. G., RATHENOW, GERMANY. Objective with a variable focal

length. German patent 597354, dated May 25, 1934. Application B 149551 IX/42 h, dated Apr 19, 1931. In German. 1.50
Drawings.

839-844 PB L 73129 KISLYN CORPORATION, WILMINGTON, DELAWARE. Objective. German patent 604490, dated Oct 22, 1934. Application K 124455 IX/42 h, dated Mar 1, 1932. In German. 1.50
Drawing. Including Leitz calculation of the objective.

845-848 PB L 73129 ZEISS, CARL. Axially symmetrical lens arrangement. German patent 573294, dated Mar 30, 1933. Application Z 18513. In German. 1.50
Drawing.

849-854 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Objective member composed of several parts. German patent application Sch 96489 IX/42 h, n. d. In German. 1.50
Drawing.

855-860 PB L 73129 EASTMAN KODAK CO., ROCHESTER, N. Y. Optical system. German patent application E 37718 IX/42 h, Jul 7, 1931. In German. 1.50
Drawing.

861-865 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Photographic teleobjective. German patent application Sch 72100 IX/42 h, dated Nov 10, 1924. In German. 1.50
Drawing.

866-869 PB L 73129 ROSENSTOCK, G. Photographic objective consisting of three individual lenses. German patent application O 18693 IX/42 h, dated Dec 19, 1929. In German. 1.50
Drawing.

870 PB L 73129 I. G. FARBENINDUSTRIE, A. G., FRANKFURT-MAIN, GERMANY. Periscope objective. German patent application I 199430 IX/42 h, dated Feb 1, 1930. In German. 1.50

871-873 PB L 73129 ZEISS, CARL. Photographic objective. German patent 558058, dated Sep 1, 1932. Application Z 17917 IX/42 h, dated Oct 24, 1928. In German. 1.50
Drawing.

874-877 PB L 73129 ZEISS IKON, A. G., DRESDEN, GERMANY. Photographic objective. German patent application Z 19528 IX/42 h, dated Sep 1, 1931. In German. 1.50
Supplement to patent 530,843. Drawing.

878-885 PB L 73129 ZEISS IKON, A. G., DRESDEN, GERMANY. Photographic objective. German patent application B 115132 IX/42 h, dated Aug 13, 1929. In German. 1.50
Drawings.

886-887 PB L 73129 ERNEMANN-WERKE A. G., DRESDEN, GERMANY. Photographic objective. German patent 401275, dated Aug 30, 1924. Application E 27714 IX/42 h, dated Feb 19, 1922. Inventor: Bertele, L. In German. 1.50
Drawing.

888-889 PB L 73129 ERNEMANN-WERKE A. G., DRESDEN, GERMANY. Photographic objective. German patent 435763, dated Oct 19, 1926. Application E 31450 IX/42 h, dated Oct 25, 1924. Inventor: Bertele, L. In German. 1.50
Drawing.

890-892 PB L 73129 Rapid objective. German patent 526308, dated Jun 10, 1931. Application 42 h L 109 30, dated Apr 13, 1930. In German. 1.50
Drawing.

893-896 PB L 73129 KAPELLA, LTD. Improved lens system. British patent 260,801, Nov 11, 1926. Application 32,275/25, dated Dec 22, 1925. Inventor: Warmisham, A. In English. 1.50
Drawings.

897-899 PB L 73129 ZEISS, CARL, Photographic objective corrected spherically, chromatically, astigmatically and for coma. German patent 463739, dated Aug 2, 1928. Application Z 16134 IX/42 h, dated Jun 27, 1926. In German. 1.50
Drawing.

900-909 PB L 73129 Rapid objective. German patent 526307, dated Jun 5, 1931. Application L 73792 IX/42 h, dated Dec 25, 1928. In German. 1.50
Drawing. Including Leitz notes and calculations for the objective.

910-912 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Rapid objective with spherical, chromatic and astigmatic correction. German patent 565566, dated Dec 2, 1932. Application 42h Sch 204 30, dated Sep 2, 1930. In German. 1.50

913-921 PB L 73129 ZEISS IKON, A. G., DRESDEN, GERMANY. Objective corrected spherically, chromatically, anastigmatically, and for coma, with an extremely large aperture ratio. German design patent application 1272007 gm 42 h, dated Dec 31, 1932. In German. 1.50
Drawings. Including Leitz graphs and calculation.

922-928 PB L 73129 I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN, GERMANY. Rapid photographic objective consisting of five members. German design patent application 132174? Gm 42 h, dated Jun 26, 1934. In German. 1.50
Drawing.

929-934 PB L 73129 VOIGTLÄNDER & SOHN A. G., BRAUNSCHWEIG, GERMANY. Photographic objective particularly for reproduction purposes. German patent 342937, dated Oct 25, 1921. Application 42 h, dated Mar 12, 1921. In German. 1.50
Drawing.

935-940 PB L 73129 KAPELLA, LTD. Lens. U. S. patent 1,955,590, dated Apr 17, 1934. Application 489,261, dated Jul 12, 1930. Inventor: Lee, H. In English. 1.50
Drawing.

941-944 PB L 73129 KAPELLA, LTD. Photographic and projection lens. German patent 1,955,617, dated Apr 17, 1934. Application 511,454, dated Jan 27, 1931. Inventor: Warmisham, A. In German. 1.50
Drawing.

945-946 PB L 73129 ERNEMANN-WERKE A. G., DRESDEN, GERMANY. Photographic objective. German patent 435763, Oct 9, 1926. Application E 31450 IX/42 h, dated Oct 25, 1924. Inventor: Bertele, L. In German. 1.50
Drawing.

947-950 PB L 73129 ZEISS, CARL. Supplementary system for insertion into or directly next to a photographic system. German patent 416246, dated Jul 14, 1925. Application Z 13773 IX/42 h, dated May 8, 1923. In German. 1.50

951-953 PB L 73129 ZEISS, CARL. Spherically, astigmatically and chromatically corrected objective. German patent 287089, dated Sep 13, 1915. Application 42h Class 4, dated Jan 3, 1913. In German. 1.50
Drawing.

954-960 PB L 73129 ZEISS IKON, A. G., DRESDEN, GERMANY. Rapid objective. German design patent application 1301,446 Gm 42 h, dated Jan 16, 1934. In German. 1.50
Drawing. Includes Leitz notes and calculations.

961-968 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Rapid wide-angle anastigmat. German patent application 42 h Sch 19030, dated Jul 2, 1930. In German. 1.50
Drawing.

969-972 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Method and arrangement for determination of refraction coefficients by observation of angle limits. German patent 597609, dated May 31, 1934. Application 42 h Sch 229 30, dated Aug 5, 1930. In German. 1.50
Drawings.

973-977 PB L 73129 KAPELLA, LTD. Improvements in objectives. British patent 280,392, dated Nov 17, 1927. Application 32,377/26, dated Dec 22, 1926. In English. 1.50
Drawing.

978-982 PB L 73129 SCHNEIDER, JOS., & CO., BAD KREUZNACH, GERMANY. Photographic teleobjective. German patent application Sch 83598 IX/42 h, dated Aug 19, 1927. In German. 1.50
Drawings.

983-985 PB L 73129 GOERZ, C. P., A. G., BERLIN, GERMANY. Afocal optical front system for objectives. German patent 394280, dated Apr 19, 1924. Application O 13568 IX/42 h, dated Mar 9, 1923. Inventor: Richter, R. In German. 1.50
Drawing.

986-991 PB L 73129 ZEISS, CARL. Photographic double-objective corrected spherically, chromatically, astigmatically and for coma. German patent application Z 16340 IX/42 h, dated Sep 28, 1926. In German. 1.50
Drawings.

992-996 PB L 73129 ZEISS, CARL. Astigmatically, spherically and chromatically corrected objective. German patent 92313, dated Jul 5, 1897. Application Class 57: Photography, dated Nov 14, 1896. In German. 1.50
Drawings.

997-1001 PB L 73129 ZEISS, CARL. Achromatic dispersive lens for lens systems consisting of two members. German patent 71473, dated Oct 14, 1893. Application Class 42: Instruments, dated Mar 12, 1893. In German. 1.50

1002-1005 PB L 73129 GOERZ, C. P. Spherically, chromatically and astigmatically corrected objective. German patent 74437, dated Apr 4, 1894. Application 57: Photography, dated Dec 20, 1892. In German. 1.50
Drawing.

1006-1008 PB L 73129 GOERZ, C. P. Spherically, chromatically and astigmatically corrected objective. German patent 89458, dated Nov 14, 1896. Application Class 57: Photography, dated Oct 3, 1894. In German. 1.50
Drawing. Supplement to patent 74437 of Dec 20, 1892.

1009-1013 PB L 73129 GOERZ, C. P. Spherically, chromatically and astigmatically corrected system consisting of two lenses. German patent 109283, dated Mar 12, 1900. Application Class 57: Photography, dated May 27, 1898. In German. 1.50
Drawings.

1014-1016 PB L 73129 VOIGTLÄNDER & SOHN, A. G., BRAUNSCHWEIG, GERMANY. Spherically, chromatically and astigmatically corrected objective. German patent 124934, dated Nov 4, 1901. Application Class 42 h, dated Dec 1, 1900. 1.50
Drawings.

1017-1035 PB L 73129 Microscope immersion condenser A = 1.6. 1933. In German. 2.00
Drawing and calculations.

1036-1057 PB L 73129 Condenser for Mechau projection apparatus with an astigmatic lens, f = 20 mm. 1945. In German. 2.00

1058-1085 PB L 73129 Three-lens condenser A = 0,85. 1930. In German. 3.00
Drawing and calculations.

1086-1136 PB L 73129 Two-diaphragm condenser A = 0,87. 1930. In German. 5.50

1137-1142 PB L 73129 Condenser for projection apparatus. 1940. In German. 1.50
Drawings and calculations.

1143-1150 PB L 73129 Two-diaphragm quartz condenser A = 0,90. 1939. In German. 1.50
Drawings and calculations.

1151-1159 PB L 73129 Lenses for anastigmatic tube analyzer. n. d. In German. 1.50
Drawings and calculations.

1160-1164 PB L 73129 Collimator for f = 20 cm. n. d. In German. 1.50
Drawings and calculations.

1165-1241 PB L 73129 Achromat for a combination view and range finder. 1936-1938. In German. 8.00

MISCELLANEOUS

PB L 70141. DEUTSCHES MUSEUM, MUNICH, GERMANY. German patents in various fields. (FIAT Microfilm Reel J 1, Frames 4-1014). Apr - Dec 1944. 1011 f. Price: Microfilm-$6.00 - Enlargement print-$101.50
This microfilm reel consists of 353 patents issued by the German Patent Office from Apr 25, to Dec 7, 1944. The patent numbers range from 746 401 to 746 889 (some patents are missing). Individual patents are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB, patent and frame numbers when ordering individual items. In German.

Frames	Title	Price
4-6 PB L 70141	TRACZ, P. (Inventor). Optical pyrometer. Ger. patent 746 401, dated Aug 1, 1944. Application T 50 111 IXb/42 i, dated Mar 13, 1938. In German. Drawing.	$1.50
7-9 PB L 70141	BRUCKMANN, A. (Inventor). Thermometer (for hot water heating	

systems). Ger. patent 746 402, dated Aug 1, 1944. Application B 174 198 IX b/42 i, dated Jan 4, 1936. In German. 1.50
Drawings.

10-12 PB L 70141 — BENDIX AVIATION CORP., CHICAGO, ILL. Altimeter. Ger. patent 746 403, dated Aug 1, 1944. Application B 163 009 IX b/42 k, dated Nov 7, 1933. In German. 1.50
Drawings.

13-15 PB L 70141 — BAUER & SCHAURTE, NEUSS. Method and equipment for steel analysis. Ger. patent 746 404, dated Aug 5, 1944. Application B 183 498 IX b/42 k, dated Jun 15, 1938. Inventor: Zuschlag, T. In German. 1.50
Drawing.

16-17 PB L 70141 — SEILER, R. (Inventor). Method for locating material defects by means of vibrations. Ger. patent 746 405, dated Aug 3, 1944. Application S 126 665 IX b/42 k, dated Apr 2, 1937. In German. 1.50

18-20 PB L 70141 — ANKER-WERKE A. G., BIELEFELD. Control for typewriters combined with calculators or tabulating machines. Ger. patent 746 406, dated Aug 3, 1944. Application A 92039 IX b/42 m, dated Sep 21, 1940. Inventor: Sobisch, J. In German. 1.50
Drawing.

21-29 PB L 70141 — DEUTSCHE HOLLERITH MASCHINEN GES. M. B. H., BERLIN. Computer. Ger. patent 746 407, dated Jul 21, 1944. Application D 85 761 IX b/42 m, dated Aug 26, 1941. Inventor: Scheerer, W. In German. 1.50
Drawings.

30-33 PB L 70141 — AKTIEBOLAGET FACIT, ATVIDABERG, SWEDEN. Locking mechanism for ratchet-type calculating machines. Ger. patent 746 408, dated Aug 3, 1944. Application A 89 077, IX b/42 m, dated Mar 1, 1939. Inventor: Carlstrom, B. In German. 1.50
Drawings.

34-36 PB L 70141 — ANKER-WERKE A. G., BIELEFELD. Printing device for calculating machines. Ger. patent 746 409, dated Aug 5, 1944. Application A 79 358 IX b/42 m, dated May 12, 1936. Inventor: Aurbach, K. In German. 1.50
Drawings.

37-42 PB L 70141 — COMPAGNIE DES MACHINES BULL, PARIS, FRANCE. Printing device for business machines. Ger. patent 746 411, dated Aug 5, 1944. Application C 52 741 IX b/43 a, dated Apr 24, 1937. Inventor: Knutsen, K. In German. 1.50
Drawings.

43-53 PB L 70141 — DEUTSCHE HOLLERITH MASCHINEN GES. M. B. H., BERLIN. Film-strip operated business machine. Ger. patent 746 412, dated Aug 1, 1944. Application D 80 417 IX b/43 a, dated May 11, 1939. Inventor: Bryce, J. In German. 1.50
Drawings.

54-61 PB L 70141 — DEUTSCHE HOLLERITH MASCHINEN GES. M. B. H., BERLIN. Printing device for transfer of card-punch data. Ger. patent 746 413, dated Sep 11, 1944. Application D 81 971 IX b/43 a, dated Jan 30, 1940. Inventor: Maul, M. In German. 1.50
Drawings.

62-65 PB L 70141 — ALFANO, A. (Inventor). Vending machine. Ger. patent 746 414, dated Aug 5, 1944. Application A 91 294 IX b/43 b, dated Apr 28, 1940. In German. 1.50
Drawings.

66-69 PB L 70141 — SEIDEL NAUMANN A. G., DRESDEN. Sewing machine (for adjustable width of stitch). Ger. patent 746 415, dated Jul 29, 1944. Application A 90 862 VII/52 a, dated Feb 11, 1940. Inventor: Beyer, W. In German. 1.50
Drawings.

70-72 PB L 70141 — GORN, A. (Inventor). Mechanism for separating and cleaning waste paper. Ger. patent 746 416, dated Aug 3, 1944. Application G 102 952 VII 55 a, dated Feb 1, 1941. In German. 1.50
Drawings.

73-75 PB L 70141 — PAUL STEINBOCK PAPIER U. ZELLULOSE FABRIK A. G., FRANKFURT, ODER. Apparatus for dissolving waste paper. Ger. patent 746 417, dated Aug 3, 1944. Application St 61 234 VII/ 55 a, dated Nov 12, 1941. Inventor: Roth, H. In German. 1.50
Drawings.

76-77 PB L 70141 — J. J. MARX CO., LAMBRECHT. Acid-resistant felts for paper machines. Ger. patent 746 418, dated Aug 3, 1944. Application M 143 478 VII/ 55 d, dated Nov 23, 1938. Inventor: Holl, F. In German. 1.50

78-79 PB L 70141 — SCHULZ, E. (Inventor). Method for gluing paper and metal foil. Ger. patent 746 419, dated Aug 3, 1944. Application Sch 119 324 VII/ 55 f, dated Oct 6, 1939. In German. 1.50

80-82 PB L 70141 — I. G. FARBENINDUSTRIE A. G., FRANKFURT. Method for determining suitable light conditions for producing subtractive multi-colored photographs. Ger. patent 746 420, dated Aug 5, 1944. Application I 71 044 IX a/57 a, dated Dec 10, 1941. Inventors: Schneider, W. and Berger, H. In German. 1.50
Drawing.

83-85 PB L 70141 — BUSCHEL, C. (Inventor). Method for reversing the ground-glass image in reflex cameras. Ger. patent 746 421, dated Aug 5, 1944. Application B 185 556 IX a/ 57 a, dated Dec 10, 1938. In German. 1.50
Drawings.

86-87 PB L 70141 — GEYER WERKE K. G., BERLIN. Film processing machine (especially for 35 mm film). Ger. patent 746 422, dated Aug 8, 1944. Application G 99 677 IX a/ 57 c, dated Mar 11, 1939. Inventor: Geyer, W. In German. 1.50

88-89 PB L 70141 — SIEMENS & HALSKE A. G., BERLIN. Neon lamp switch with operating voltage below ignition voltage (for traffic signals). Ger. patent 746 425, dated Aug 3, 1944. Application S 149 016 VIII b/ 74 d, dated Feb 19, 1942. Inventor: Booker, H. In German. 1.50
Drawing.

90-92 PB L 70141 METZGER, F. (Inventor). Method and equipment for producing thin-walled angle sections of plastic materials having an adhesive capacity. Ger. patent 746 426, dated Aug 8, 1944. Application M 136 538 IV c/ 75 b, dated Dec 5, 1936. In German. 1.50
Drawing.

93-94 PB L 70141 ALLES, H. Method for producing rust-preventive coatings (on iron). Ger. patent 746 427, dated Aug 3, 1944. Application A 84 828 IV a/ 75 c, dated Nov 14, 1937. Inventor: Scheiber, H. In German. 1.50
Supplement to Pat 715 810.

95-96 PB L 70141 HEINRICH, O. (Inventor). Method for producing uniform lacquered or other coatings on cartridge cases. Ger. patent 746 428, dated Aug 10, 1944. Application H 159 885 IV a/ 75 c, dated Jun 17, 1939. In German. 1.50

97-98 PB L 70141 BERLINER GIPSWERKE L. MUNDT. Method for producing highly-porous articles from mineral wool. Ger. patent 746 429, dated Aug 5, 1944. Application B 174 241 VI b/ 80 b, dated May 24, 1936. In German. 1.50

99-100 PB L 70141 SPINDLER, PAUL (Inventor). Method to prevent twisting of smooth threads in warps. Ger. patent 746 430, dated Aug 10, 1944. Application S 146 622 VII/ 86 a, dated Aug 17, 1941. In German. 1.50

101-102 PB L 70141 MASCHINENFABRIK CARL ZANGS A. G., KREFELD. Spool feeler device for looms with two-celled frames. Ger. patent 746 431, dated Aug 10, 1944. Application M 148 799 VII/86 c, dated Oct 8, 1940. In German. 1.50
Drawing.

103-106 PB L 70141 SORDELLI, S. (Inventor). Conical reel for gradual stretching of threads. Ger. patent 746 433, dated Aug 5, 1944. Application S 121 034 VII/29 a, dated Jan 3, 1936. In German. 1.50
Drawings.

107-108 PB L 70141 MARHOLT, K. (Inventor). Apron for x-ray protection. Ger. patent 746 434, dated Aug 10, 1944. Application M 146 496 IX a/30 a, dated Nov 18, 1939. In German. 1.50
Drawing.

109-110 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Pressed cork. Ger. patent 746 435, dated Aug 8, 1944. Application I 61155 IV c/ 39b, dated Apr 26, 1938. Inventors: Eichstädt, K. In German. 1.50

111-114 PB L 70141 ZEISS IKON A. G., DRESDEN. Still or motion picture camera with built-in photoelectric exposure meter. Ger. patent 746 436, dated Aug 5, 1944. Application Z 24 678 IX a/ 57 a, dated Jul 15, 1938. Inventor: Küppenbender, H. In German. 1.50
Drawings.

115-117 PB L 70141 MONTBLANC-SIMPLO G. M. B. H. HAMBURG. Fountain pen with telescopic piston plunger. Ger. patent 746 437, dated Aug 10, 1944. Application M 137 514 X/70 b, dated Feb 23, 1936. In German. 1.50
Drawing.

118-119 PB L 70141 W. GROHMANN, ZURICH, SWITZERLAND. Lacquer applicator for porous or uneven surfaces. Ger. patent 746 438, dated Aug 10, 1944. Application G 99 050 IV d/ 75 c, dated Nov 29, 1938. In German. 1.50
Drawings.

120-121 PB L 70141 DYCKERHOFF PORTLAND-ZEMENTWERKE, A. G., MAINZ. Process for producing a high grade cement similar to Ferrari cement. Ger. patent 746 439, dated Aug 5, 1944. Application D 81 127 VI b/ 80 b, dated Aug 27, 1939. Inventors: Dyckerhoff, W. and Wittekindt, W. In German. 1.50

122-124 PB L 70141 MASCHINENFABRIK U. EISENGIESSEREI, A. BEIEN, HERNE. Removable attachment for conveyor links. Ger. patent 746 440, dated Aug 5, 1940. Application M 132 934 XI/ 81 e, dated Dec 15, 1938. In German. 1.50
Drawing.

125-128 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Short-interval timer. Ger. patent 746 441, dated Oct 11, 1944. Application S 104 151 IX b/83 d, dated Apr 12, 1932. In German. 1.50
Drawings.

129-130 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Pneumatic hammer. Ger. patent 746 442, dated Aug 10, 1944. Application S 126 397 XI/87 b, dated Mar 13, 1937. Inventors: Bechthold, K. and others. In German. 1.50
Drawing.

131-133 PB L 70141 TELEFONBAU UND NORMALZEIT G. M. B. H., FRANKFURT, A. M. Hookup for telephone repeater stations. Ger. patent 746 444, dated Aug 3, 1944. Application T 51 421 VIII a/21 a^3, dated Dec 6, 1938. Inventor: Hebel, M. In German. 1.50
Drawing.

134-135 PB L 70141 BEYER, J. (Inventor). Perspiration shields. Ger. patent 746 445, dated Aug 10, 1944. Application B 195 522 VII/3 b, dated Sep 18, 1941. In German. 1.50

136-137 PB L 70141 GEWERKSCHAFT REUSS, BONN. Demolition tool with a pointed end and a ploughshare-shaped body. Ger. patent 746 446, dated Aug 5, 1944. Application G 100097 VI b/ 5 b, dated May 21, 1939. In German. 1.50
Drawings.
Supplement to Patent 743 218.

138-139 PB L 70141 DIRKS, R. (Inventor). Drying arrangement for warps with adjustable lateral walls. Ger. patent 746 447, dated Aug 5, 1944. Application D 77 981 VII/8 b, dated May 25, 1937. In German. 1.50

140-142 PB L 70142 CHEMISCHE WERKE ALBERT, WIESBADEN. Washing methods (using viscous colloidal solutions of alkali metal phosphates insoluble in water). Ger. patent 746 448, dated Aug 5, 1944. Application C 55 924 IV d/8 i, dated Jul 27,

1940. Inventors: Bornemann, F. and others. In German. 1.50

143-144 PB L 70141 HEINRICH KOPPERS G. M. B. H., ESSEN. Feeding device for use in the production of caked lumps for coking furnaces. Ger. patent 746 449, dated Aug 8, 1944. Application K 151 424 VI b/10 a, dated Jul 29, 1938. Inventor: v. Ackersen, P. In German. 1.50
Drawing.
Supplement to Patent 703 833.

145-146 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for production of monochloracetylchloride. Ger. patent 746 451, dated Jul 29, 1944. Application I 69 068 IV d/12 o, dated Mar 12, 1941. Inventors: Rieche, A. and Stetler, H. In German. 1.50

147-148 PB L 70141 ALLGEMEINE ELEKTRICITÄTS-GES., BERLIN. Cathode ray tubes with two systems for generation and deflection of a cathode beam. Ger. patent 746 453, dated Aug 3, 1944. Application L 102 192 VIII c/21 g, dated Oct 26, 1940. Inventor: Schiller, A. In German. 1.50
Drawing.

149-150 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for production of water-insoluble monoazo dyes. Ger. patent 746 454, dated Aug 5, 1944. Application I 64735 IV d/22 a, dated Jun 2, 1939. Inventor: Schleifenbaum, W. In German. 1.50

151-154 PB L 70141 J. R. GEIGY A. G., BASEL, SWITZERLAND. Process for production of metallic stilbeneazo dyes. Ger. patent 746 455, dated Jun 10, 1944. Application G 98 671 IV d/22 a, dated Sep 20, 1938. Inventor: Keller, E. In German. 1.50

155-156 PB L 70141 L. & C. STEINMÜLLER, GUMMERSBACH. Mill furnace installation. Ger. patent 746 456, dated Aug 5, 1944. Application St 56 353 V/24 1, dated Jun 29, 1937. Inventors: Hardemann, W. and Gaube, F. In German. 1.50
Drawing.

157-158 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Two-bath chromium refining. Ger. patent 746 458, dated Aug 5, 1944. Application I 65 081 IV d/28 a, dated Jul 8, 1939. Inventor: Immendorfer, E. In German. 1.50

159-162 PB L 70141 GLASWERK G. FISCHER, ILMENAU. Process for increasing the luminescence of uranium glass and an electronic discharge tube with walls of this glass. Ger. patent 746 459, dated Jun 15, 1944. Application G 98 750 VI b/32 b, dated Oct 6, 1938. Inventor: Fischer, H. In German. 1.50

163-164 PB L 70141 PFEIL, C. (Inventor). Wooden bed fittings. Ger. patent 746 460, dated Aug 3, 1944. Application P 83 135 X/34 i, dated Oct 9, 1941. In German. 1.50
Drawings.

165-167 PB L 70141 ALLGEMEINE ELEKTRICITÄTS-GES., BERLIN. Arrangement for measuring the products or quotients of two quantities by means of two resistances in series. Ger. patent 746 462, dated Aug 8, 1944. Application A 73 082 IX b/42 d, dated May 1, 1934. In German. 1.50
Drawings.

168-174 PB L 70141 ASTRAWERKE A. G., CHEMNITZ. Regulating device for the counting and other processes of motor-driven calculating and recording machines. Ger. patent 746 466, dated Aug 10, 1944. Application A 83 119 IX b/42 m, dated May 30, 1937. Inventor: Maier, L. In German. 1.50

175-176 PB L 70141 BRUNSVIGA-MASCHINENWERKE GRIMME, NATALIS & CO., A. G., BRAUNSCHWEIG. Drive shaft for calculating machines with axial movement of the shifting disks. Ger. patent 746 467, dated Aug 5, 1944. Application B 193 313, dated Feb 15, 1941. Inventor: Knackfuss, W. In German. 1.50
Drawings.

177-178 PB L 70141 RÖBIG, A. (Inventor). Valve lifter for internal combustion engines. Ger. patent 746 468, dated Aug 5, 1944. Application R 109 792 I a/46 b, dated Apr 8, 1941. In German. 1.50
Supplement to Patent 708 738.

179-180 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Use of fixtures of steel or rare metals in anodic oxidation of aluminum. Ger. patent 746 469, dated Aug 5, 1944. Application I 66 265 VI a/48 a, dated Jan 10, 1940. Inventors: Michel, J. and Henneberger, F. In German. 1.50

181-185 PB L 70141 METALLGESELLSCHAFT A. G., FRANKFURT A. M. Process for reviving zinc phosphate-containing rustproofing baths. Ger. patent 746 470, dated July 21, 1944. Application M 130 123 VI a/48 d, dated Feb 19, 1935. In German. 1.50

186-188 PB L 70141 KLEIN, SCHANZLIN & BECKER A. G., FRANKENTHAL. Multistage high-pressure centrifugal pump with a housing consisting of two axially divided parts. Ger. patent 746 471, dated Aug 3, 1944. Application K 146 094 Ia/59 b, dated Apr 8, 1937. Inventors: Krisam, F. and others. In German. 1.50
Drawing.

189-191 PB L 70141 G. FRITSCHE & J. KRÖMER, LEIPZIG. Shaft arrangement for hand carts. Ger. patent 746 472, dated Aug 8, 1944. Application F 89 451 II/63 b, dated Feb 7, 1941. Inventor: Schertel, E. In German. 1.50
Drawings.

192-194 PB L 70141 STOLZE, H. (Inventor). Automotive gear shifting mechanism. Ger. patent 746 473, dated Aug 5, 1944. Application St 62 204 II/63 c, dated Sep 1, 1942. Inventor: Stolze, H. In German. 1.50
Drawings.

195-196 PB L 70141 FRIED. KRUPP A. G., ESSEN. High-heat resistant mortar for magnesite brickwork. Ger. patent 746 474, dated Aug 5, 1944. Application K 158 364 VI b/80 b, dated Aug 8, 1940. Inventor: Stutzel, H. In German. 1.50

197-200 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Precision controller for electric vehicles. Ger. patent 746 476, dated Jul 21, 1944. Application S 132 156 VIII d/20 l, dated May 19, 1938. Inventor: Steghöfer, H. In German. 1.50
Drawings.

201-206 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Control gear for electric vehicles. Ger. patent 746 477, dated Aug 8, 1944. Application S 124 322 VIII d/20 l, dated Sep 26, 1936. In German. 1.50
Drawing.

207-211 PB L 70141 SIEMENS & HOLSKE A. G., BERLIN. Hookup for manually operated telephone extensions. Ger. patent 746 479, dated Aug 8, 1944. Application S 139 364 VIII a/21 a^3, dated Nov 25, 1939. Inventor: Pechel, O. In German. 1.50
Wiring diagrams.

212-218 PB L 70141 SIEMENS & HALSKE A. G., BERLIN. Hookup for dial system telephone installations with several exchanges. Ger. patent 746 480, dated Aug 16, 1944. Application S 136 867 VIII a/21 a^3, dated Apr 27, 1939. Inventor: Lampe, H. In German. 1.50
Wiring diagrams.

219-220 PB L 70141 N. V. HOLLANDSCHE KUNSTZIJDE INDUSTRIE, BREDA, HOLLAND. Process for producing rayons from viscose. Ger. patent 746 482, dated Aug 10, 1944. Application N 41 419 IVe/29 b, dated Dec 10, 1937. Inventor: Bredée, H. In German. 1.50

221-225 PB L 70141 AUFSCHNITTSCHNEIDEMASCHINEN UND SCHNELLWAAGENFABRIK VOM BERKEL & CO. G. M. B. H., BERLIN. Mechanism for transmitting the indicated weight from a scale to a printing device. Ger. patent 746 483, dated Aug 10, 1944. Application A 83 441 IXb/42 f, dated Jun 30, 1937. Inventor: de Brouckère, L. In German. 1.50
Drawings.

226-228 PB L 70141 HRDUK, F. and HERMAN, J. (Inventors). Variable transmission counting mechanisms for flowmeters. Ger. patent 746 484, dated Aug 8, 1944. Application H 147 313 IXb/42 p, dated Apr 18, 1936. In German. 1.50
Drawings.

229-231 PB L 70141 CLAUSING, H. (Inventor). Device for mounting cultivator blades or plowshares on farm vehicles. Ger. patent 746 485, dated Aug 8, 1944. Application C 52 765 III/45 a, dated Apr 28, 1937. In German. 1.50
Drawing.

232-233 PB L 70141 UNIVERSUM-FILM A. G., BERLIN. Rapid exposure control for film strip printing equipment. Ger. patent 746 486, dated Aug 10, 1944. Application V 14 765 IX a/57e, dated Jun 1, 1939. Inventors: Schmidt, R. and Ahrensdorf, H. In German. 1.50
Drawing.

234-235 PB L 70141 STRÖTZEL, M. and KRUPPA, E. (Inventors). Icing prevention for aircraft. Ger. patent 746 487, dated Aug 8, 1944. Application St 55 803 XI/62 b, dated Feb 3, 1937. In German. 1.50

236-238 PB L 70141 JULIUS PINTSCH K. G., BERLIN. Railroad crossing signal light. Ger. patent 746 489, dated Aug 8, 1944. Application P 75345 VIII b/74 d, dated Jun 3, 1937. Inventor: Müller, P. In German. 1.50
Drawing.

239-240 PB L 70141 RECHENBACH, A. (Inventor). Pocket flashlight with a rotary head (for colored light). Ger. patent 746 490, dated Aug 10, 1944. Application R 103 465 VIII b/74 d, dated Jun 20, 1939. In German. 1.50
Drawing.

241-243 PB L 70141 BREUER & CO., WUPPERTHAL. Garters, suspenders, etc., (with an intermediate part of cloth-covered tension springs). Ger. patent 746 491, dated Aug 10, 1944. Application B 199 860 VII/3 a, dated Dec 24, 1940. In German. 1.50
Drawings included.

244-246 PB L 70141 ZAPFEN, H. (Inventor). Adjustable mannequin. Ger. patent 746 492, dated Apr 25, 1944. Application Z 24 262 VII/3 d, dated Sep 6, 1936. In German. 1.50
Drawings.

247-248 PB L 70141 SCHUCHMACHER, O. (Inventor). Portable welding current control for multiple arc welding installations. Ger. patent 746 499, dated Aug 10, 1944. Application Sch 122 738 VIIc/21 h, dated Jun 15, 1941. In German. 1.50
Drawing.

249-251 PB L 70141 J. MONFORTS & J. COUSSEMENT, GLADBACH. Equipment for producing spinning fibers from bast fiber stems. Ger. patent 746 500, dated Jun 21, 1944. Application M 15 3 779 VI/29a, dated Apr 11, 1942. Inventor: Apelt, P. In German. 1.50
Drawing.
Supplement to Patent 696 092.

252 PB L 70141 UNTERHARZER BERG U. HUTTENWERKE G. M. B. H., GOSLAR. Corrosion-resisting lead alloy. Ger. patent 746 501, dated Aug 10, 1944. Application U 15 609 VIa/40 b, dated Feb 25, 1942. In German. 1.50

253-255 PB L 70141 ALLGEMEINE ELEKTRICITATS GES., BERLIN. Mechanism for control of chronological electrical processes requiring variable power. Ger. patent 746 503, dated Aug 8, 1944. Application L 99163 IXb/42 d, dated Sep 30, 1939. Inventor: Bjerknes, A. In German. 1.50
Drawing.
Supplement to Patent 702 275.

256-257 PB L 70141 BRAUNKOHLE BENZIN A. G., BERLIN. Manometer connection. Ger. patent 746 504, dated Aug 10, 1944. Application B 199 476 IXb/42 k, dated Sep 5, 1942. Inventor: Lehmann, K. In German. 1.50
Drawings.
Supplement to Patent 722 745.

258-260 PB L 70141 H. MAIHAK, A. G., HAMBURG. Wire extensometer. Ger.

patent 746 505, dated Aug 10, 1944. Application M 138 402 IX b/42 k, dated Jun 22, 1937. Inventor: Knoll, W. In German. 1.50
Drawing.

261-272 PB L 70141 — MERCEDES BÜROMASCHINEN-WERKE A. G., BENSHAUSEN. Power driven gear for the product mechanism of book-keeping machines. Ger. patent 746 507, dated Aug 12, 1944. Application M 149 397 IX b/42 m, dated Dec 11, 1940. In German. 1.50
Drawings.

273-274 PB L 70141 — PAFFRATH, P. (Inventor). Oil-pressure operated centrifugal filter cleaner. Ger. patent 746 511, dated Aug 10, 1944. Application P 79328 Ia/46 c, dated Jun 22, 1939. In German. 1.50
Drawing.

275-277 PB L 70141 — STIASNE, C. (Inventor). Feeder device for liquefiable hydrocarbon gas in internal combustion engines with mixture admission. Ger. patent 746 512, dated Jun 19, 1944. Application St 61 403 Ia/46 c^2, dated Jan 4, 1942. In German. 1.50
Drawings.

278-281 PB L 70141 — APPAREILLAGE GARDY S. A. GENEVA, SWITZERLAND. Thread-cutting machine. Ger. patent 746 513, dated Aug 10, 1944. Application A 90 531 Ib/49 a, dated Nov 24, 1939. Inventor: Bodmer, E. In German. 1.50
Drawings.

282-284 PB L 70141 — GUSTLOFF WERKE, WEIMAR. Lathe spindle drive. Ger. patent 746 514, dated Aug 12, 1944. Application H 158 753 Ib/ 49a, dated Feb 23, 1939. Inventors: Roloff, J. and Hautsch, H. In German. 1.50
Drawings.

285-286 PB L 70141 — MAHLE K. G. STUTTGART. Process for manufacturing engine pistons from a cast ingot. Ger. patent 746 515, dated Aug 10, 1944. Application M 152 475 Ib/49 i, dated Nov 22, 1941. Inventor: Kohler, W. In German. 1.50
Drawings.

287-288 PB L 70141 — EISENWERK WANHEIM, G. M. B. H., DUISBURG. Process for manufacturing automotive spring brackets. Ger. patent 746 516, dated Aug 18, 1944. Application E 53 509 Ib/ 49 l, dated Mar 22, 1940. Inventor: Spolders, R. In German. 1.50
Drawings.

289-292 PB L 70141 — BASLER, H. and HOGEL, G. (Inventors). Method and equipment for casting and shaping fiber plates. Ger. patent 746 517, dated Jun 13, 1944. Application B 199 283 VIII/54 e, dated Aug 16, 1942. In German. 1.50
Drawings.

293-295 PB L 70141 — RINGLEB, O. (Inventor). Device for producing light signals. Ger. patent 746 518, dated Aug 8, 1944. Application R 114 418 IX a/54 h, dated Oct 24, 1942. In German. 1.50
Drawings.

296-297 PB L 70141 — SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Pulse generator for counters, etc. Ger. patent 746 520, dated May 5, 1944. Application S 145 942 VIII b/74 b, dated Jun 25, 1941. Inventors: Paschen, P. and Bilz, W. In German. 1.50
Drawings.

298-300 PB L 70141 — FERNSEH G. M. B. H., BERLIN. Arrangement to decrease disturbances in the first amplifying stage in negative feed-back amplifiers. Ger. patent 746 522, dated Aug 3, 1944. Application F 86 508 VIII a/21 a^2, dated Mar 17, 1939. Inventor: Knick, U. In German. 1.50
Wiring diagrams.

301-304 PB L 70141 — SIEMENS & HALSKE A. G., BERLIN. Transmission system with echo and feed-back barrier. Ger. patent 746 523, dated Aug 10, 1944. Application S 122 098 VIII a/21 a^2, dated Mar 25, 1936. In German. 1.50
Wiring diagrams.

305-308 PB L 70141 — SIEMENS & HALSKE A. G., BERLIN. Multiple carrier-transmission system in which several channels are concentrated in a group. Ger. patent 746 524, dated Aug 8, 1944. Application S 126 808, dated Apr 14, 1937. Inventor: Thierbach, D. In German. 1.50
Wiring diagrams.

309-310 PB L 70141 — "ELIN" UND SCHORCH-WERKE A. G., VIENNA. Disconnecting switch with insulated ceramic part between the moving mechanism and knife. Ger. patent 746 525, dated Aug 3, 1944. Application E 54 626 VIII b/21 e, dated Mar 9, 1941. Inventors: Zich, R. and Manzinger, H. In German. 1.50
Drawings.

311-312 PB L 70141 — SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Heavy-duty switch with graduated switch control. Ger. patent 746 526, dated Aug 3, 1944. Application S 128 987 VIII b/21 g, dated Oct 3, 1937. Inventor: Flogel, O. In German. 1.50
Drawing.

313-315 PB L 70141 — SCHUNK & EHE, GIESSEN. Device to cool commutators in brush holders for electric motors. Ger. patent 746 527, dated Aug 12, 1944. Application Sch 120 688 VIII d/ 21 d, dated Jul 7, 1940. Inventors: Schwalm, J. In German. 1.50
Drawings.

316-318 PB L 70141 — I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for producing color photographs. Ger. patent 746 530, dated Aug 5, 1944. Application I 61048 IV a/ 57 b, dated Apr 10, 1938. Inventors: Schneider, W. and Lohaus, H. In German. 1.50

319-320 PB L 70141 — SCHWARZE, R (Inventor). Flashbulb. Ger. patent 746 531, dated Aug 12, 1944. Application Sch 122 642 IX a/57c, dated May 30, 1941. In German. 1.50

321-322 PB L 70141 — KOTTHAUS, BUSCH & KOTTECK, REMSCHEID. Automatic reversing tube-rolling mill. Ger. patent 746 535, dated Aug 12, 1944. Application K 158 768 Ib/ 7c, dated Sep 22, 1940. Inventor: Kotteck, P. In German. 1.50
Drawings.

325 PB L 70141 — This frame is missing.

324-326 PB L 70141 — GEWERKSCHAFT MATHIAS STINNES, ESSEN. Process for manufacture of roofing paper. Ger. patent 746 536, dated Aug 12, 1944. Application G 100 641 IV d/8 1, dated Aug 29, 1939. Inventors: Proche, H. and others. In German. 1.50

327-330 PB L 70141 — I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for changing the transposition capacity of natural or artificial compounds composed of or containing protein substances, or other high-molecular basic amino or amino group-containing compounds. Ger. patent 746 537, dated Aug 18, 1944. Application A 78 425 IV d/8m, dated Feb 7, 1936. In German. 1.50

331-333 PB L 70141 — J. M. FUSSENEGGER CO., DORNBIRN. Process for producing printed pigment patterns on fabrics and yarns of cellulose fibers, by sulfuric acid dressing of the non-printed portions. Ger. patent 746 538, dated Aug 10, 1944. Application F 90705 IV d/8n, dated Oct 19, 1941. Inventor: Ginzel, H. In German. 1.50

334-336 PB L 70141 — "CORVUS" CHEMISCHE FABRIK DR. HOLTOF U. KRIEGER, WORMS. Stencil sheet for rotary stencil printers. Ger. patent 746 540, dated Aug 8, 1944. Application C 55 912 XII/15 d, dated Jul 25, 1940. Inventor: Holthof, W. In German. 1.50 Drawings.

337-338 PB L 70141 — ENGELHARDT, F. (Inventor). Process for producing citric acid-soluble phosphate fertilizers. Ger. patent 746 541, dated Aug 12, 1944. Application E 53 937 IV b/16, dated Sep 6, 1940. In German. 1.50

339-341 PB L 70141 — SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Core-type variable grid transformer for vehicles operated by single-phased A. C. Ger. patent 746 542, dated Aug 8, 1944. Application S 144 065 VIII d/20 l, dated Feb 16, 1941. Inventor: Müller, P. In German. 1.50

342-344 PB L 70141 — FERNSEH G. M. B. H., BERLIN. Television projector with cathode ray tubes. Ger. patent 746 543, dated Aug 8, 1944. Application - none. Jul 28, 1937. Inventors: Müller, R. and Reichel, W. In German. 1.50 Drawings.

345-348 PB L 70141 — I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for producing vat dyes of the anthraquinone series. Ger. patent 746 546, dated Aug 12, 1944. Application I 59 065 IV d/22 b, dated Sep 16, 1937. Inventors: Wieners, F. and Meig, W. In German. 1.50

349-350 PB L 70141 — EKKELENZ, A. (Inventor). Packing materials for automotive generators. Ger. patent 746 547, dated Aug 12, 1944. Application E 56 512 IV d/22 i, dated Oct 2, 1942. In German. 1.50

351-355 PB L 70141 — FRITON, B. (Inventor). Litter brace for aerial ambulances. Ger. patent 746 549, dated Aug 16, 1944. Application F 92 160 IX a/30 e, dated Jul 21, 1942. In German. 1.50 Drawings.

356-359 PB L 70141 — KODAK A. G., BERLIN. Alternate shutters for dual projection equipment. Ger. patent 746 553, dated Aug 12, 1944. Application K 161 728 IX a/42 h, dated Jul 20, 1941. Inventor: Wengel, R. In German. 1.50

360-361 PB L 70141 — METZLER, F. (Inventor). Internal combustion engine with vapor injection. Ger. patent 746 554, dated Aug 12, 1944. Application M 153 486 I A/46 a, dated Mar 10, 1942. In German. 1.50 Drawing. Supplement to Patent 605 631.

362-364 PB L 70141 — Synchronized piston engine for operating shaking troughs. Ger. patent 746 555, dated Sep 27, 1944. Application M 151 502 I a/46 d, dated Jul 30, 1941. In German. 1.50

365-366 PB L 70141 — DEUTSCHE EISENWERKE A. G., MÜLHEIM. Concrete pipe consisting of a pre-stressed core and jacket. Ger. patent 746 556, dated Aug 12, 1944. Application D 83300 XII/47 f, dated Sep 11, 1940. Inventor: Eicke, J. In German. 1.50

367-369 PB L 70141 — BAUMANN, K. (Inventor). Infinitely variable friction gears, with pairs of sliding friction disks on the main and pinion shafts. Ger. patent 746 557, dated Aug 8, 1944. Application B 198 263 XII/47 h, dated May 19, 1942. In German. 1.50 Drawings. Supplement to Patent 721 635.

370-373 PB L 70141 — MAHLE K. G., STUTTGART. Arrangement for machining work pieces of oval cross section, particularly pistons. Ger. patent 746 559, dated Aug 12, 1944. Application M 154 715, dated Jul 8, 1942. Inventor: Hammersdorf, F. In German. 1.50 Drawings.

374-375 PB L 70141 — FRITZ WERNER A. G., BERLIN. Shell-end mill with manually operated cutter. Ger. patent 746 560, dated Aug 12, 1944. Application W 109 676 I b/49 b, dated Sep 28, 1941. Inventor: Fähler, K. In German. 1.50 Drawing. Supplement to Patent 729 424.

376-378 PB L 70141 — HERMANN PFAUTER CO. CHEMNITZ. Use of a helical cam guide to effect supplementary turning of the piece on milling cutters for bevel gears. Ger. patent 746 561, dated Aug 8, 1944. Application P 77912 I b/49 d, dated Sep 17, 1938. Inventor: Glaser, K. In German. 1.50 Drawings.

379-380 PB L 70141 — HERMANN PFAUTER CO. CHEMNITZ. Head for hobs with the milling spindle mounted bilaterally on the pinion. Ger. patent 746 562, dated Aug 12, 1944. Application P 78 945 I b/49 d, dated Mar 31, 1939. Inventors: Glaser, K. and Härtel, K. In German. 1.50 Drawings.

381-382 PB L 70141 — BEDEUS, F. (Inventor). Photocell-operated shutter release. Ger.

patent 746 563, dated Aug 8, 1944. Application B 197 832 IX a/37 a, dated Apr 11, 1942. In German. 1.50
Wiring diagrams.
Supplement to Patent 723 331.

383-385
PB L 70141
STOECKICHT, W. (Inventor). Contra-rotating aircraft propeller system. Ger. patent 746 565, dated Aug 12, 1944. Application St 59 764 XI/62 c, dated Jun 7, 1940. In German. 1.50
Drawings.

386-387
PB L 70141
TEXTILMASCHINENFABRIK SCHLICK & CO. K. G., BURGSTADT. Machine for manufacture of cross-coils. Ger. patent 746 566, dated Aug 12, 1944. Application T 53 704 VII/76 d, dated Aug 24, 1939. Inventors: Massalsky, G. and Schlick, H. In German. 1.50
Drawings.

388-390
PB L 70141
WAGGON-FABRIK UERDINGEN A. G., KREFELD. Thermal-stressed double-walled tank of light construction. Ger. patent 746 567, dated Aug 12, 1944. Application W 109 966 XII/81 c, dated Nov 13, 1941. Inventor: Hennig, R. In German. 1.50
Drawings.

391-392
PB L 70141
MANUFACTURES DES PRODUITS CHIMIQUES DU NORD, ETABLISSEMENTS KUHLMANN, PARIS. Process to improve the fastness to light of ice colors. Ger. patent 746 571, dated Jun 10, 1944. Application C 55 868 IV d/8 m, dated Sep 13, 1938. Inventors: Petitcolas, P. and Sureau, R. In German. 1.50

393-394
PB L 70141
GEBR HERRMANN, COLOGNE. Process for production of colloidal silicic acid solutions. Ger. patent 746 573, dated Aug 12, 1944. Application H 170 154 IV b/12 i, dated Dec 4, 1942. Inventor: Stauber, M. In German. 1.50
Supplement to Patent 729 751.

395-396
PB L 70141
BRANDT, K. (Inventor). Process for production of aromatic hydroxy-carboxylic acid amides. Ger. patent 746 575, dated Jul 29, 1944. Application B 182 026 IV d/12 o, dated Feb 22, 1938. In German. 1.50

397-399
PB L 70141
J. R. GEIGY A. G., BASEL, SWITZERLAND. Process for preparation of 2,4 diamino-1, 3,5-triazines. Ger. patent 746 576, dated Aug 12, 1944. Application G 103 373 IV c/12 p, dated Apr 17, 1941. Inventor: Grün, A. In German. 1.50
Supplement to Patent 735 596.

400-402
PB L 70141
J. R. GEIGY A. G., BASEL, SWITZERLAND. Process for production of basic 1,3-dialkoxypropanols. Ger. patent 746 578, dated Jun 21, 1944. Application G 102 437 IV c/12 q, dated Oct 24, 1940. Inventors: Grün, A. and Stoll, W. In German. 1.50

403-404
PB L 70141
FELTEN & GUILLEAME CARLSWERK, A. G., COLOGNE. Track contact for electric railways. Ger. patent 746 579, dated Aug 12, 1944. Application F 92 517 II/20 i, dated Sep 26, 1942. Inventors: Thiel, V. and Tauner, E. In German. 1.50
Drawings.

405-407
PB L 70141
H. WILLERS, BERLIN. Radio transmission with improved efficiency by amplitude control of the modulated carrier wave. Ger. patent 746 580, dated Aug 16, 1944. Application J 59 945 VIII a/21 a[4], dated Dec 16, 1937. Inventor: Strong, C. In German. 1.50
Wiring diagram.

408-409
PB L 70141
SIEMENS & HALSKE A. G., BERLIN. Capacitor. Ger. patent 746 584, dated Aug 30, 1944. Application S 141 887 VIII c/21 g, dated Aug 3, 1940. Inventors: Hagenhaus, K. and Herrmann, W. In German. 1.50
Drawing.

410-412
PB L 70141
PATENT-TREUHAND GES. FÜR ELEKTRISCHE GLÜHLAMPEN M. B. H., BERLIN. Rectifier tube. Ger. patent 746 585, dated Aug 16, 1944. Application P 82 646 VIII c/21 g, dated Aug 8, 1941. Inventor: Schulz, P. In German. 1.50
Drawing.

413-414
PB L 70141
LICENTIA PATENT-VERWALTUNGS G. M. B. H., BERLIN. Arrangement for illustrating the intensity distribution in a beam of rays of slow neutrons. Ger. patent 746 586, dated Aug 12, 1944. Application L 106 222 VIII c/21 g, dated Jun 23, 1942. Inventor: Kuhn, E. In German. 1.50

415-416
PB L 70141
I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for production of vat dyes of the anthraquinone series. Ger. patent 746 587, dated Aug 12, 1944. Application I 57 662 IV d/22 b, dated Apr 10, 1937. Inventors: Eränzlein, O. and others. In German. 1.50

417-419
PB L 70141
VEREINIGTE GLANZSTOFF-FABRIKEN A. G. WUPPERTAL. Apparatus for washing and treatment of freshly cut cellulose fiber in the form of fleece. Ger. patent 746 591, dated Aug 12, 1944. Application V 36 214 VII/29 a, dated Oct 8, 1939. Inventor: Maxton, A. In German. 1.50
Drawing.

420-421
PB L 70141
I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for production of fibers from high-molecular linear polyamides. Ger. patent 746 593, dated Aug 12, 1944. Application I 63 686 VII/29 a, dated Feb 4, 1939. In German. 1.50

422-423
PB L 70141
I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Ammonia and heat recovery from used copper rayon precipitation water. Ger. patent 746 594, dated Jun 21, 1944. Application I 71 428 IV c/29 b, dated Jan 29, 1942. Inventor: Haltmeier, A. In German. 1.50
Drawing.
Supplement to Patent 701 967.

424
PB L 70141
This frame is missing.

425-426
PB L 70141
I. G. FARBENINDUSTRIE A. G., FRANKFURT. Process for purifying coagulated albuminous substances. Ger. patent 746 595, dated Aug 12, 1944. Application I 70 808 IV c/29 b, dated Nov 5, 1941. Inventor: Haynn, R. In German. 1.50

427-429
PB L 70141
V. KOBATS, F. (Inventor). Trocar for lung punctures. Ger. patent 746 596, dated Aug 16, 1944. Application K 163 737 IX a/30 a, dated Feb 21, 1942. In German. 1.50
Drawings.

430-432
PB L 70141
KÖHLER, H. (Inventor). Apparatus to determine the contours of limbs (for prosthesis). Ger. patent 746 597, dated Jul 21, 1944. Application K 165 783 IX a/30 d, dated Sep 5, 1942. In German. 1.50
Drawings.

433-434
PB L 70141
BECK, F. (Inventor). Process and apparatus for manufacture of arch supports. Ger. patent 746 598, dated Aug 12, 1944. Application B 194 908 IX a/30 d, dated Jul 18, 1941. In German. 1.50

435-436
PB L 70141
KIESSLING, E. (Inventor). Welder's screen with a suction pipe for poisonous gases. Ger. patent 746 599, dated Oct 2, 1944. Application K 163 526 IX a/30 d, dated Feb 1, 1942. In German. 1.50
Drawings.

437-438
PB L 70141
OELWERKE HOURY & VAN DER LANDE G. M. B. H., EMMERICH. Process for production of inositol concentrates. Ger. patent 746 600, dated Aug 12, 1944. Application O 24 206 IV a/30 h, dated Jun 20, 1939. Inventors: Grandel, F. and others. In German. 1.50

439-441
PB L 70141
WESTFOLIA-DINNENDAHL-GRÖPPEL A. G., BOCHUM. Mechanism for controlling a runaway conveyor basket. Ger. patent 746 601, dated Aug 16, 1944. Application W 109 227 XI/35 a, dated Jun 25, 1941. Inventors: Hanefeld, O. and Menke, W. In German. 1.50
Drawings.

442-443
PB L 70141
REINZ, H. (Inventor). Process for the manufacture of gaskets, especially head gaskets. Ger. patent 746 603, dated Aug 16, 1944. Application R 113 875, dated Aug 26, 1942. In German. 1.50

444-446
PB L 70141
ERNST REINZ PRÄZISIONS-WERKZEUGFABRIK, NÜRNBERG. Gage for checking the cutting angle of taps. Ger. patent 746 605, dated Aug 12, 1944. Application R 101 683 IX b/42b, dated Feb 27, 1936. Inventor: Reinz, E. In German. 1.50
Drawings.

447-449
PB L 70141
KLANGFILM G. M. B. H., BERLIN. Control for sound recorders. Ger. patent 746 606, dated Aug 16, 1944. Application K 139 277 IX a/42 g, dated Sep 13, 1935. In German. 1.50
Drawings.

450-452
PB L 70141
ERNST LEITZ G. M. B. H., WETZLAR. Photoelectric exposure meter. Ger. patent 746 607, dated Aug 16, 1944. Application L 109 608 IX a/42 h, dated Nov 17, 1942. Inventor: May, E. In German. 1.50
Drawings.

453-455
PB L 70141
GASTROW, H. (Inventor). Frame for diapositives. Ger. patent 746 608, dated Aug 16, 1944. Application G 104 689 IX a/42 h, dated Jan 17, 1942. In German. 1.50
Drawings.

456-457
PB L 70141
I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Wood-destroying agent. Ger. patent 746 609, dated Aug 18, 1944. Application I 68 955, IV a/45 l, dated Feb 23, 1941. Inventors: Moschel, W. and others. In German. 1.50

458-460
PB L 70141
EBERSBACH, O. (Inventor). Four-cycle internal combustion engine. Ger. patent 746 612, dated Aug 18, 1944. Application E 55 508 I a/46 a^{10}, dated Nov 23, 1941. In German. 1.50
Drawings.

461-462
PB L 70141
TÜRK & CO. BAUAUSTOCKNUNG, BERLIN. Sheathed pipe arrangement for conduction of flue gas through combustible walls. Ger. patent 746 614, dated Aug 18, 1944. Application T 55 217 XII/47 f, dated Mar 27, 1941. Inventor: Plöger, H. In German. 1.50
Drawing.

463-464
PB L 70141
ELECTRON CO. M. B. H. STUTTGART. Device for machining work pieces of oval cross-sections. Ger. patent 746 615, dated Aug 18, 1944. Application B 56287 IB/49 a, dated Jul 24, 1942. Inventor: Kohler, W. In German. 1.50
Drawing.

465-467
PB L 70141
VEBY BÖTTGER CO. STOLLBERG. Overhand-seam sewing machine. Ger. patent 746 617, dated Aug 25, 1944. Application B 183 963 VII/52 a, dated Jul 20, 1938. In German. 1.50
Drawings.

468-470
PB L 70141
ZERKLEINERUNGS-MASCHINEN INGENIEUR KARL BENSEN & CO. GROSSAUHEIM. Process for preparation of wood shavings for fiber production. Ger. patent 746 618, dated Aug 25, 1944. Application Z 25 162 VII/55 a, dated Mar 22, 1939. In German. 1.50
Drawing.

471-474
PB L 70141
ASCHAFFENBURGER ZELLSTOFFWERKE A. G., BERLIN. Process and equipment for washing cellulose in diffusers. Ger. patent 746 619, dated Aug 16, 1944. Application A 95 573 IV b/55 b, dated May 5, 1942. Inventor: Knopf, E. In German. 1.50
Drawing.

475-477
PB L 70141
MASCHINENFABRIK AUGUST KOEBIG & CO. RADEBEUL. Rollers containing a heating and a cooling system. Ger. patent 746 620, dated Aug 16, 1944. Application R 112 252 IV e/55 f, dated Feb 20, 1942. Inventor: Böttinger, O. In German. 1.50
Supplement to Patent 718 045.

478-479
PB L 70141
WITTWER, P. (Inventor). Process for producing multi-colored designs on light metal sheets by means of light-sensitive bichromate albuminous layers. Ger. patent 746 621, dated Aug 16, 1944. Application W 107 761 IV a/57 b, dated Jan 12, 1939. In German. 1.50

480-482
PB L 70141
THEUERKORN, O. (Inventor). Photostatic reproduction equipment. Ger. patent 746 622, dated Aug 16, 1944. Application T 56 996 IX a/57 c, dated Mar 5, 1942. In German. 1.50
Drawing.

485-484 PB L 70141 BAER, E. (Inventor). Process for production of half-tones for newspapers and magazines. Ger. patent 746 623, dated Aug 16, 1944. Application B 183 626 IV a/57 d, dated Jun 26, 1938. In German. 1.50

485-487 PB L 70141 BOCCARDI, R. (Inventor). Method and apparatus for sizing warps. Ger. patent 746 631, dated Jul 21, 1944. Application B 189 844 VII/8 a, dated Feb 16, 1940. In German. 1.50
Drawings.
Supplement to Patent 715 181.

488-489 PB L 70141 HABENSFELD, E. (Inventor). Card index. Ger. patent 746 634, dated Aug 16, 1944. Application H 166 132 XII/11 e, dated Aug 23, 1941. In German. 1.50
Drawing.

490-492 PB L 70141 JULIUS PINTSCH K. G., BERLIN. Distilling boiler for continuous heating of low-temperature oils for vapor phase refining over minette ore. Ger. patent 746 636, dated Aug 8, 1944. Application P 83 374 IV d/12 r, dated Nov 20, 1941. Inventor: Stock, H. In German. 1.50
Drawing.

493-495 PB L 70141 FISCHER, E. (Inventor). Processing of hot coke on hydrogenation plant sewage to boiler-feed water. Ger. patent 746 637, dated Aug 16, 1944. Application F 91 434 X/13 b, dated Mar 8, 1942. In German. 1.50
Drawings.

496-499 PB L 70141 DOEDERER, W. (Inventor). Continuous annealing furnace. Ger. patent 746 639, dated Aug 16, 1944. Application D 81 789 VI a/18 c, dated Dec 29, 1939. In German. 1.50
Drawing.
Supplement to Patent 700 866.

500-501 PB L 70141 CONTINENTAL GUMMI-WERKE A. G., HANNOVER. Axlebox assembly for rail vehicles, with rubber springs. Ger. patent 746 640, dated Aug 18, 1940. Application C 55 705 II/20 d, dated Mar 9, 1939. Inventor: Kaune, K. In German. 1.50
Drawings.

503-504 PB L 70141 NEUBAUER, J. (Inventor). Automatic coupling for freight cars. Ger. patent 746 641, dated Aug 21, 1944. Application N 45 797 II/20 e, dated Jun 30, 1942. In German. 1.50
Drawings.

505-506 PB L 70141 TELEFUNKEN GES. FÜR DRAHTLOSE TELEGRAPHIE M. B. H., BERLIN. Radio direction finder for direct indication. Ger. patent 746 642, dated Oct 2, 1944. Application T 57 501 VIII a/21 a4, dated Jan 26, 1939. Inventor: Kotowski, P. In German. 1.50
Drawing.

507-508 PB L 70141 SCHMECK, P. (Inventor). Speed control for series-wound electric motors. Ger. patent 746 644, dated Aug 18, 1944. Application Sch 115 497 VIII d/21 d1, dated Apr 10, 1938. In German. 1.50
Wiring diagram.

509-510 PB L 70141 ROBERT BOSCH G. M. B. H., STUTTGART. Feed-back limits of photoelectric cells. Ger. patent 746 647, dated Aug 16, 1944. Application B 185 199 VIII c/21 g, dated Nov 10, 1938. Inventor: Dorn, W. In German. 1.50
Wiring diagram.

511-512 PB L 70141 BAERMANN, M. (Inventor). Process for production of homogeneous ferromagnetic mixtures (with non-magnetic components. Ger. patent 746 648, dated Aug 16, 1944. Application B 196 883 VIII c/21 g, dated Jan 25, 1942. In German. 1.50

513-515 PB L 70141 ENGEL, M. (Inventor). Body-warming device for outdoor workers, pilots, etc. Ger. patent 746 650, dated Aug 16, 1944. Application E 55 178 IX a/30 d, dated Aug 12, 1941. In German. 1.50
Drawing.

516-516 PB L 70141 HAFNER, H. (Inventor). Hearth-type furnace with resistance heating in the furnace lining, especially for melting light metal alloys. Ger. patent 746 651, dated Aug 16, 1944. Application H 165 354 VI a/31 a, dated May 14, 1941. In German. 1.50
Drawings.

519-520 PB L 70141 JOH. HEINR. WOLFF G. M. B. H., ULM. Draw or chest with removable partitions. Ger. patent 746 652, dated Aug 21, 1941. Application W 107 614 X/34 i, dated Aug 13, 1940. Inventor: Langguth, E. In German. 1.50

521-522 PB L 70141 HEINSTEINWERK G. M. B. H., HEIDELBERG. Prefabricated tile stove with thin tiles. Ger. patent 746 653, dated Aug 21, 1944. Application H 161 332 V/36 a, dated Jan 13, 1940. In German. 1.50

523-524 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Process for manufacture of polymerization products. Ger. patent 746 656, dated Aug 18, 1944. Application I 51 323 IV d/39 c, dated Dec 23, 1934. Inventors: Freudenberger, H. and Starck, W. In German. 1.50
Supplement to Patent 727 955.

525-526 PB L 70141 VON TIESENHAUSEN, F. (Inventor). Gage for tree-height measurements. Ger. patent 746 657, dated Sep 6, 1944. Application T 50 075 IX b/42 c, dated Mar 5, 1938. In German. 1.50
Drawings.

527-528 PB L 70141 DEUTSCHE SOLVAY-WERKE A. G., BERNBURG. Gage for random measurement of the fluid level in tanks containing liquefied gases. Ger. patent 746 658, dated Aug 21, 1944. Application D 81 270 IX b/42 c, dated Sep 29, 1939. In German. 1.50
Drawing.

529-530 PB L 70141 SCHALLBAND SYNDIKAT A. G., BERLIN. Oscillograph recorder. Ger. patent 746 659, dated Aug 18, 1944. Application T 53 980 IX a/42 g, dated Jul 11, 1940. Inventor: Westerkamp, H. In German. 1.50
Drawing.

531-533 PB L 70141 "GEMA" GES. FÜR ELEKTROAKUSTISCHE UND MECHANISCHE APPARATE, M. B. H., BERLIN. Process for recording magnetographs. Ger. patent 746 660, dated Oct 2, 1944. Application

R 54 157 IX a/42 g, dated Nov 9, 1940. Inventor: Brandt, W. In German. 1.50
Drawing.

534-536 PB L 70141 SCHALLBAND SYNDIKAT A. G., BERLIN. Process and equipment for splicing sound films. Ger. patent 746 661, dated Aug 16, 1944. Application T 55 582 IX a/42 g, dated May 28, 1941. Inventor: Westerkamp, H. In German. 1.50
Drawings.

537-541 PB L 70141 ZEISS IKON A. G., DRESDEN. Stereoscope adapted for modification of the convergence and base of the objective. Ger. patent 746 682, dated May 30, 1944. Application Z 28 650 IX a/42 h, dated Sep 30, 1940. Inventors: Sauer, H. and others. In German. 1.50
Drawings.

542-543 PB L 70141 KÄSEMANN, E. (Inventor). Polarizer. Ger. patent 746 663, dated Aug 16, 1944. Application K 146 086 IX a/42 h, dated Apr 4, 1937. In German. 1.50

544-546 PB L 70141 MÜLLER & WETZIG, DRESDEN. Portable projector. Ger. patent 746 665, dated Aug 18, 1944. Application M 151 954 IX a/42 h, dated Sep 25, 1941. Inventors: Blümel, H. and Krönert, W. In German. 1.50
Drawings.

547-549 PB L 70141 DVL - BERLIN. Indicator for cylinder pressure of internal combustion engines. Ger. patent 746 666, dated Aug 16, 1944. Application D 82 685 IX b/42 k, dated May 28, 1940. Inventor: Lichtenberger, F. In German. 1.50
Drawings.

550-551 PB L 70141 CHEMISCHE FABRIK JOH. A. BENCKISER G. M. B. H., LUDWIGSHAFEN. Process for testing blood from slaughter houses as to its nutritional value. Ger. patent 746 667, dated Aug 21, 1944. Application C 55 630 IX b/42 l, dated Feb 13, 1940. Inventor: Keller, H. In German. 1.50

552-554 PB L 70141 BUGGE, YNGVAR (Inventor). Driving mechanism for counters in calculating machines, cash registers, ticket printers, etc. Ger. patent 746 668, dated Aug 18, 1944. Application B 186 618 IX b/42 m, dated Mar 11, 1939. In German. 1.50
Drawings.

555-559 PB L 70141 PITNEY-BOWES POSTAGE METER CO., STAMFORD, CONN. Postage meter. Ger. patent 746 669, dated Aug 21, 1944. Application P 79 124 IX b/43 a, dated May 9, 1939. Inventors: Rouan, F. and Prior, H. In German. 1.50
Drawings.

560-561 PB L 70141 A. G. DER KOHLENWERTSTOFF-VERBÄNDE GRUPPE BENZIN-BENZOL-VERBAND (B.V.) BOCHUM. Process for improvement of diesel fuels. Ger. patent 746 670, dated Aug 18, 1944. Application A 950 13 IV d/46 a², dated Feb 7, 1942. Inventors: Weller, R. and Gohm, J. In German. 1.50

562-565 PB L 70141 WIEGMANN, W. and NEUMANN, J. (Inventors). Safety device to prevent fuel-line leaks. Ger. patent 746 671, dated Sep 29, 1944. Application W 106 585 XII/47 f, dated Nov 26, 1939. In German. 1.50
Drawings.

566-567 PB L 70141 FRIEDR. BLASBERG ELEKTROCHEM. FABRIK, SOLINGEN. Process to improve the corrosion resistance of chromium-plated iron and steel. Ger. patent 746 672, dated Aug 18, 1944. Application B 200 195 VI a/48 d, dated Nov 6, 1942. Inventors: Gebauer, K. and Sommer, K. In German. 1.50

568-569 PB L 70141 METALLGESELSCHAFT A. G., FRANKFURT Protective coatings for zinc and its alloys. Ger. patent 746 673, dated Aug 16, 1944. Application M 149 575 VI a/48 d, dated Jan 7, 1941. Inventors: von Schwenitz, H. and Wassermann, G. In German. 1.50

570-573 PB L 70141 ANDERSEN & CO., HAMBURG. Preparation of frozen fruits and vegetables. Ger. patent 746 674, dated Aug 16, 1944. Application A 93 547 IV a/53 c, dated Jun 30, 1941. Inventor: Schuphaus, W. In German. 1.50

574-576 PB L 70141 FALKENTHAL, E. and PRESSEM, E. (Inventors). Camera with built-in photoelectric cell. Ger. patent 746 675, dated Aug 18, 1944. Application F 77 545 IA a/57 a, dated May 15, 1934. In German. 1.50
Drawing.

577-579 PB L 70141 KLIMA, R. and BAYER, U. (Inventors). Maneuverable sled. Ger. patent 746 677, dated Aug 18, 1944. Application K 157 017 II/63 b, dated Mar 13, 1940. In German. 1.50
Drawings.

580-583 PB L 70141 AUTO-UNION A. G., CHEMNITZ. Rear-wheel suspension for motorcycles. Ger. patent 746 678, dated Aug 21, 1944. Application A 88 014 II/63 h, dated Sep 8, 1938. Inventor: Lehr, P. In German. 1.50
Drawings.

584-586 PB L 70141 AKTIEBOLAGET PLÅTFÖRÄDLING HELSINGBORG, SWEDEN. Cartridge magazine feed (for automatic pistols, etc.) Ger. patent 746 679, dated Aug 18, 1944. Application A 94 198 XI/72 d, dated Sep 24, 1941. In German. 1.50
Drawings.

587-588 PB L 70141 JACOB BERG K. G., BLECHWARENFABRIK, BUDENHEIM. Hard lacquer coatings for food containers. Ger. patent 746 682, dated Aug 18, 1944. Application B 195 561 IV d/75 c, dated Sep 21, 1941. In German. 1.50

589-590 PB L 70141 HABICH, A. (Inventor). Lacquer sprayer. Ger. patent 746 683, dated Dec 7, 1944. Application H 170 362 IV c/75 c, dated Dec 24, 1942. In German. 1.50
Drawings.

591-592 PB L 70141 MASCHINENFABRIK SCHWEITER A. G., HORGEN, SWITZERLAND. Drum-driven winding machine (for yarns). Ger. patent 746 684, dated Aug 3, 1944. Application M 154 148 VII/76 d, dated May 9, 1942. In German. 1.50
Drawing.
Supplement to Patent 742633.

595-595 PB L 70141 BRANDENBURG, P. (Inventor). Jacket for drying drums, revolving tubular furnaces, etc. Ger. patent 746 685, dated Sep 6, 1944. Application B 193 816 V/82 a, dated Oct 15, 1941. In German. 1.50
Drawing.

596-597 PB L 70141 KALUZA, G. (Inventor). Alarm clock with illuminated dial. Ger. patent 746 686, dated Aug 18, 1944. Application K 166 449 IX b/83 a, dated Nov 12, 1942. In German. 1.50
Drawing.

598-601 PB L 70141 FRANZ IRMISCHER MASCHINENFABRIK U EISENGIESSEREI, SAALFELD. Equipment for manufacture of wire cloth. Ger. patent 746 687, dated Aug 18, 1944. Application I 59817 VII/86 f, dated Dec 5, 1937. Inventor: Grube, P. In German. 1.50
Drawings.

602-603 PB L 70141 REIBENSPIES, F. (Inventor). Process for manufacturing pretzel sticks. Ger. patent 746 689, dated Aug 18, 1944. Application R 111 621 IV a/2 c, dated Nov 29, 1941. In German. 1.50

604-605 PB L 70141 AUERGESELLSCHAFT A. G., BERLIN. Process to eliminate eyeball fluorescence occurring in illumination with ultraviolet radiation. Ger. patent 746 690, dated Aug 18, 1944. Inventors: Riehl, N. and Fick, E. In German. 1.50

606-608 PB L 70141 DEMAG A. G., DUISBURG. Rotor mounting for rotary compressors operating with a high temperature drop. Ger. patent 746 693, dated Aug 18, 1944. Application D 77 983 I a/14 b, dated May 20, 1938. Inventor: Strucksberg, K. In German. 1.50
Drawings.

609-610 PB L 70141 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Annealing furnace door. Ger. patent 746 694, dated Aug 18, 1944. Application S 144 135 VI a/18 c, dated Feb 23, 1941. Inventor: Teindl, J. In German. 1.50

611-612 PB L 70141 REICHSWERKE, A. G., ALPINE MONTANBETRIEBE "HERMAN GÖRING," LINZ. Heat treatment to increase the deformability of white malleable iron. Ger. patent 746 695, dated Aug 18, 1944. Application A 92 300 VI a/18 c, dated Nov 12, 1940. Inventor: Polkhard, E. In German. 1.50

613-615 PB L 70141 SIEMENS & HALSKE A. G., BERLIN. Selector for telephone installations. Ger. patent 746 696, dated Aug 18, 1944. Application S 134 660 VIII a/21 a^3, dated Nov 20, 1938. Inventors: Müller, K. and Wüstefeld, F. In German. 1.50

616-618 PB L 70141 SIEMENS & HALSKE A. G., BERLIN. Static-free telephone circuit. Ger. patent 746 697, dated Aug 18, 1944. Application S 130 521 VIII a/21 a^3, dated Jan 23, 1938. Inventors: Flad, A. and Meyer, H. In German. 1.50
Wiring diagrams.

619-625 PB L 70141 SIEMENS & HALSKE A. G., BERLIN. Telephone circuit for wire-tapping. Ger. patent 746 698, dated Aug 18, 1944. Application S 127 834 VIII a/21 a^3, dated Jun 20, 1937. Inventor: Simon, F. In German. 1.50
Wiring diagram.

626-629 PB L 70141 TELEFONBAU UND NORMALZEIT LEHNER & CO. FRANKFURT A. M. Telephone extension circuit. Ger. patent 746 699, dated Aug 18, 1944. Application T 47 021 VIII a/21 a^3, dated Jun 11, 1936. In German. 1.50
Wiring diagram.

630-632 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Zinc bus bar for high voltage control equipment. Ger. patent 746 701, dated Aug 21, 1944. Application S 140 777 VIII b/21 c, dated Aug 21, 1944. Inventor: Dehn, A. In German. 1.50
Drawings.

633-634 PB L 70141 KAISER & SPELSBERG SCHALKSMÜHLE. Junction-box coupling. Ger. patent 746 702, dated Aug 18, 1944. Application K 155 825 VIII b/21 c, dated Oct 24, 1939. Inventor: Spelsberg, G. In German. 1.50
Drawings.

635-638 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Method for suppressing vibrations produced by more than two drive shafts. Ger. patent 746 703, dated Aug 21, 1944. Application S 122 694 VIII d/21 d^2, dated May 16, 1936. Inventor: Waetzmann, W. In German. 1.50
Drawing.
Supplement to Patent 653 991.

639-641 PB L 70141 RÖMER, H. (Inventor). Suspended roof. Ger. patent 746 706, dated Aug 21, 1944. Application R 97 763 V/24 b, dated Nov 6, 1936. In German. 1.50
Drawings.

642-644 PB L 70141 KARL LIEBERKNECHT CO. OBERLUNGWITZ. Device on flat loop-knitting machines to limit the movement of thread guide rods. Ger. patent 746 707, dated Aug 18, 1944. Application L 95 149 VII/25 a, dated Jul 9, 1938. Inventor: Spindler, K. In German. 1.50

645-647 PB L 70141 FORMHALS, A. (Inventor). Equipment for producing fibers from fibrous solutions by means of high-tension currents. Ger. patent 746 708, dated Aug 21, 1944. Application F 88 574 VII/29 a, dated Jul 16, 1940. In German. 1.50
Drawings.

648-649 PB L 70141 HENN, F. (Inventor). Drop bottle. Ger. patent 746 709, dated Aug 18, 1944. Application H 137 218 IX a/30 g, dated Aug 20, 1933.

650-651 PB L 70141 ALLGEMEINE ELEKTRICITÄTS-GES. BERLIN. Rubber nozzle for vacuum cleaners. Ger. patent 746 710, dated Aug 18, 1944. Application L 104 116 X (34 c), dated May 1, 1941. Inventor: Lang, H. In German. 1.50
Drawing.

652-653 PB L 70141 BECKER, K. (Inventor). Swivel chair. Ger. patent 746 711, dated Aug 18, 1944. Application B 188 219 X/34 g, dated Aug 2, 1938. In German. 1.50
Drawing.

654-656 PB L 70141 W. FEILER FEINMECHANIK G. M. B. H., BERLIN. Counter. Ger. patent 746 712, dated Aug 21, 1944. Application F 81 656 IX b/42 m, dated Aug 25, 1936. In German. 1.50

657-659 PB L 70141 — JUNKERS FLUGZEUG UND MOTORENWERKE A. G. DESSAU. Equipment for use in drilling and riveting elongated aircraft parts. Ger. patent 746 715, dated Aug 21, 1944. Application J 66 540 I b/49 a, dated Feb 22, 1940. Inventors: Lingner, K. and others. In German. 1.50

658-660 PB L 70141 — DEUTSCHES REICH. Shoe sole of rubber or similar material. Ger. patent 746 716, dated Aug 21, 1944. Application F 84 272 VII/ 71 a, dated Jan 9, 1938. In German. 1.50
Frames 658 and 659 repeated through faulty numbering.

661-663 PB L 70141 — GOLDSCHMIDT, V. (Inventor). Process for manufacture of fireproof building materials from serpentine, magnesium oxide, etc. Ger. patent 746 717, dated Aug 23, 1944. Application G 93 846 VI b/80 b, dated Oct 3, 1936. In German. 1.50

664-666 PB L 70141 — W. SCHLAFHORST & CO., GLADBACH. Belt drive for warping machines. Ger. patent 746 718, dated Jun 21, 1944. Application Sch 113 106 VII/86 a, dated Jun 10, 1937. Inventors: Heiners, W. and Kahlisch, G. In German. 1.50
Drawings.

667-669 PB L 70141 — HUBERT, A. (Inventor). Drive shaft arrangement (for eccentric presses). Ger. patent 746 719, dated Aug 21, 1944. Application H 140 018 I b/7 c, dated May 10, 1934. In German. 1.50
Drawings.

670-671 PB L 70141 — HABERFELD, E. (Inventor). Typewriter attachment to permit reproduction of formulas, etc. Ger. patent 746 720, dated Aug 21, 1944. Application H 132 592 XII/15 g, dated Jul 21, 1932. In German. 1.50

672-674 PB L 70141 — PAUL JORDAN, BERLIN. Clamp to connect electric circuits. Ger. patent 746 721, dated Aug 21, 1944. Application K 104 144 VIII b/21 c, dated Dec 29, 1938. Inventor: Ruthsatz, C. In German. 1.50
Drawings.

675-676 PB L 70141 — ALLGEMEINE ELEKTRICITÄTS-GES. BERLIN. Electronic discharge vessel containing several live conductors with insulated mountings. Ger. patent 746 722, dated Aug 18, 1944. Application A 73 832 VIII c/21 g, dated Aug 3, 1934. Inventor: Kniepen, P. In German. 1.50
Drawings.

677-678 PB L 70141 — HUTSTOFFWERKE FULDA, MUTH & CO., FULDA. Use of a leather or cork splitting machine for depilating rabbit skins etc. (for felt manufacture). Ger. patent 746 723, dated Aug 21, 1944. Application E 53 711 VII/28 b, dated Jun 15, 1940. Inventor: English, F. In German. 1.50

679-681 PB L 70141 — REISS-ELEKTRODEN K. G., COLOGNE. Low-frequency induction furnace. Ger. patent 746 724, dated Aug 21, 1944. Application R 108 807 VI a/31 a, dated Nov 26, 1940. Inventor: Essmann, F. In German. 1.50
Drawings.

682-683 PB L 70141 — Color paper for recognition of chemical warfare agents. Ger. patent 746 725, dated Oct 2, 1944. Application D 74 017 IX b/42 i, dated Nov 26, 1936. In German. 1.50

684-685 PB L 70141 — BOLTERSDORF, H. (Inventor). Roller suction device for paper machines. Ger. patent 746 726, dated Aug 21, 1944. Application B 185 703 VII/55 d, dated Dec 24, 1938. In German. 1.50
Drawings.

686-688 PB L 70141 — DR. BEKK & KAULEN CHEMISCHE FABRIK G. M. B. H. and JOSEF GÖRIG, COLOGNE. Process for photomechanical production of plates for copper plate calico printing. Ger. patent 746 727, dated Aug 18, 1944. Application B 169 309 IV a/57 d, dated Apr 3, 1935. In German. 1.50

689-690 PB L 70141 — DR. BEKK & KAULEN CHEMISCHE FABRIK G. M. B. H., COLOGNE. Process for applying continuous designs on printing rollers with the aid of patterns. Ger. patent 746 728, dated Aug 21, 1944. Application B 191 774 IV a/57 d, dated Sep 14, 1940. Inventor: Görig, J. In German. 1.50

691-692 PB L 70141 — C. F. ROSER G. M. B. H., STUTTGART. Method for glueing rubber or synthetic soles. Ger. patent 746 730, dated Aug 21, 1944. Application R 112 319 VII/71 a, dated Mar 3, 1942. Inventor: Roser, H. In German. 1.50

693-694 PB L 70141 — NORDDEUTSCHE HEFEINDUSTRIE A. G., BERLIN. Method for producing a yeast preparation. Ger. patent 746 732, dated Aug 21, 1944. Application N 41256 IV a/6a, dated Oct 17, 1937. Inventors: Krienitz, E. and Lacroix, H.

695-696 PB L 70141 — W. C. HERAEUS G. M. B. H., HANAU. Process for manufacturing wire cloth of pure platinum. Ger. patent 746 733, dated Aug 21, 1944. Application H 143 236 IV b/12 i, dated Mar 27, 1935. In German. 1.50
Supplement to Patent 734 815.

697-698 PB L 70141 — FRIEDRICH, W. (Inventor). Steam purifier and dryer. Ger. patent 746 734, dated Aug 21, 1944. Application F 87 074 X/13 d, dated Jul 5, 1939. In German. 1.50
Drawings.

699-702 PB L 70141 — SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Head for current collectors of trolley buses. Ger. patent 746 736, dated Aug 23, 1944. Application S 138 618 VIII d/20 l, dated Sep 14, 1939. Inventor: Morris, J. In German. 1.50

703-705 PB L 70141 — SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Device for producing uniform brake-forces in auxiliary brakes, especially solenoid brakes for electric trains. Ger. patent 746 737, dated Aug 21, 1944. Application S 132 561 VIII d/20 l, dated Jun 16, 1938. Inventor:

Groeger, H. In German. 1.50
Wiring diagram.

706-707 PB L 70141 — HELL, R. and EGE, G. (Inventors). Circuit for producing sharply defined signal impulses in cases of high distortion. Ger. patent 746 738, dated Aug 21, 1944. Application H 158 022 VIII a/21 a[1], dated Apr 20, 1937. In German. 1.50
Wiring diagram.

708-714 PB L 70141 — SIEMENS & HALSKE A. G., BERLIN. Telephone extension circuit. Ger. patent 746 739, dated Aug 23, 1944. Application S 138 887 VIII a/21 a[3], dated Oct 15, 1939. Inventor: Ciebs, K. In German. 1.50
Wiring diagrams.

715-717 PB L 70141 — STUDIENGESELLSCHAFT FÜR HOCH-LEISTUNGSSCHALTER G. M. B. H., BERLIN. Switch-operating mechanism. Ger. patent 746 741, dated Aug 21, 1944. Application St 58 402 VIII b/21 c, dated Feb 12, 1939. Inventor: Cippitelli, Cesare. In German. 1.50
Drawings.

718-720 PB L 70141 — SIEMENS & HALSKE A. G., BERLIN. Thermal resistance (electric resistance with negative temperature coefficients) for loads of 1 W to 1 M W. Ger. patent 746 742, dated Jun 21, 1944. Application S 114 205 VIII b/21 c, dated Jun 5, 1934. Inventors: Lueder, H. and Spenke, E. In German. 1.50

721-723 PB L 70141 — ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Electric pressure control. Ger. patent 746 743, dated Aug 23, 1944. Application L 95 964 VIII d/21 c, dated Oct 22, 1938. Inventors: Herzog, K. and Freitag, K. In German. 1.50
Drawing.

724-727 PB L 70141 — A. G. BROWN BOVERI & CIE, BADEN, SWITZERLAND. Frequency regulator. Ger. patent 746 744, dated Aug 23, 1944. Application B 165 793 VIII d/21 c, dated Jun 13, 1934. In German. 1.50
Wiring diagrams.

728-729 PB L 70141 — ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Contact piece for armature-less carbon brushes. Ger. patent 746 745, dated Aug 21, 1944. Application A 83 658 VIII d/21 d[1], dated Jul 16, 1937. Inventor: Mecke, H. In German. 1.50
Drawings.
Supplement to Patent 646 778.

730-731 PB L 70141 — ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Rectifier control grid arrangement. Ger. patent 746 746, dated Aug 21, 1944. Application A 80341 VIIIc/21 g, dated Aug 27, 1936. In German. 1.50
Drawings.

732-734 PB L 70141 — HEINRICH KOPPERS G. M. B. H., ESSEN. Water-gas generator. Ger. patent 746 747, dated Aug 21, 1944. Application K 155 872 V/24 c, dated Oct 27, 1939. Inventor: Weissenborn, A. In German. 1.50
Drawing.

735-736 PB L 70141 — BEO PETRI & CO., WIESBADEN. Foundations for wave-set preparations. Ger. patent 746 748, dated Aug 21, 1944. Application B 167 528 IV a/30 h, dated May 31, 1939. Inventor: Jacobi, J. O. In German. 1.50

737-738 PB L 70141 — DEKA METALLWARENFABRIK THEODOR HOCKARTH, HALLE. Steam boiling apparatus for extraction of fruit and vegetable juices. Ger. patent 746 749, dated Aug 21, 1944. Application D 73 082 X/34 l, dated Jan 3, 1936. In German. 1.50

739-741 PB L 70141 — ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Switch gear for heavy duty A. C. hoisting units. Ger. patent 746 750, dated Aug 21, 1944. Application A 82 729 VIII d/35 b, dated Apr 22, 1937. Inventor: Boeker, W. In German. 1.50

742-743 PB L 70141 — DYNAMIT A. G. TROISDORF. Surgical bandages containing hardening as well as binding agents. Ger. patent 746 751, dated Aug 21, 1944. Application D 79 956 IV c/39 b, dated Feb 28, 1939. Inventor: Mienes, K. In German. 1.50

744-745 PB L 70141 — BAUER, A. (Inventor). Mechanism to control the flow of material in automatic scales. Ger. patent 746 752, dated Aug 21, 1944. Application B 184 751 IX b/42 f, dated Sep 29, 1938. In German. 1.50
Drawings.

746-747 PB L 70141 — SEIDEL, P. (Inventor). Rotary mirror for use in photographic sound recording. Ger. patent 746 753, dated Aug 23, 1944. Application S 135 087 IX a/42 g, dated Sep 3, 1937. In German. 1.50

748-749 PB L 70141 — THÜRINGISCHE GLAS-INSTRUMENTEN-FABRIK ALT, EBERHARDT & JÄGER A. G., - ILLMENAU. Liquid thermometer of highly refractory ceramic material with a glass indicator tube. Ger. patent 746 754, dated Aug 23, 1944. Application T 50784 IX b/42 i, dated Jul 31, 1938. Inventors: Löber, H. and Boie, M. In German. 1.50

750-751 PB L 70141 — SIEMENS & HALSKE A. G., BERLIN. Process and equipment to determine the concentration of boiler waters. Ger. patent 746 755, dated Aug 23, 1944. Application S 134 112 IX b/42 i, dated Oct 5, 1938. Inventor: Lieneweg, F. In German. 1.50

752-753 PB L 70141 — VOIGTLÄNDER & SOHN A. G., BRAUNSCHWEIG. Rangefinder for still and motion picture cameras. Ger. patent 746 756, dated Aug 23, 1944. Application V 36 753 IX a/57 a, dated Jun 6, 1940. Inventor: Baumgärtner, W. In German. 1.50
Drawings.

754-755 PB L 70141 — ZEISS IKON A. G., Equipment to influence the sensitivity of color films in reproduction. Ger. patent 746 757, dated Aug 23, 1944. Application Z 24 818 IX a/57 a, dated Oct 4, 1938. Inventor: Straub, H. In German. 1.50
Drawings.

756-758 PB L 70141 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Drive for trolley buses. Ger. patent 746 758, dated Aug 23, 1944. Application L 99 033 VIII d/63 c, dated Sep 12, 1939. Inventor: Wunsche, O. In German. 1.50
Drawing.

759-760 PB L 70141 J. A. SCHWALBACH BLECHWARENWERKE A. G., BRAUNSCHWEIG. Longitudinal folded seam with rubber seal for food containers. Ger. patent 746 759, dated Aug 23, 1944. Application S 125 840 III/64 a, dated Jan 28, 1937. Inventor: Barthel, W. In German. 1.50

761-762 PB L 70141 F. TACKE MASCHINENFABRIK K. G., RHEINE. Electro rollers for conveyer belts. Ger. patent 746 760, dated Aug 23, 1944. Application T 42 789 XI/81 e, dated Jul 20, 1933. In German. 1.50
Drawing.

763-764 PB L 70141 BERTRAM, E. (Inventor). Stiffening inserts for shirt collars. Ger. patent 746 762, dated Aug 23, 1944. Application B 197 348 VII/3 a, dated Mar 4, 1942. In German. 1.50

765-767 PB L 70141 MASCHINENFABRIK WILHELM KNAPP G. M. B. H., WANNE. Coal mining machine with lateral digging arm, crushing equipment, and attached conveyor. Ger. patent 746 764, dated Aug 23, 1944. Application M 149 560 VI b/5 b, dated Jan 3, 1941. Inventor: Baum, E. In German. 1.50
Drawing.

768-770 PB L 70141 GEBR. WINKELSTRÄTER, WUPPERTAL. Drum cleaning equipment (for oil drums, etc.) Ger. patent 746 756, dated Aug 23, 1944. Application W 109 766 IV a/6 f, dated Oct 16, 1941. Inventor: Holberg, W. In German. 1.50
Drawings.

771-772 PB L 70141 CARL AMM, PORCHHEIM. Bell-type laundry beater with a soap container. Ger. patent 746 766, dated Aug 23, 1944. Application A 92 458 VII/8 d, dated Dec 6, 1940. In German. 1.50
Drawing.

773-774 PB L 70141 PEMSEL, H. (Inventor). Process to increase the activity of fullers' earth. Ger. patent 746 767, dated Aug 23, 1944. Application P 84 284 IV b/12 i, dated May 30, 1942. In German. 1.50
Supplement to Patent 711 454.

775-776 PB L 70141 GEBR. BÖHLER & CO., A. G., VIENNA. Steel for permanent magnets. Ger. patent 746 768, dated Aug 23, 1944. Application B 196 307 VI a/18 d, dated Dec 4, 1941. Inventor: Krainer, H. In German. 1.50

777-779 PB L 70141 DEMAG A. G., DUISBURG. Multiple-part shifter for single-hand operation (for block winches, trolleys, etc.) Ger. patent 746 771, dated Aug 23, 1944. Application D 86 354 VIII b/21 c, dated Nov 18, 1941. Inventor: Neumann, R. In German. 1.50

780-781 PB L 70141 PORZELLANFABRIK KAHLA, KAHLA. Quenched spark gap. Ger. patent 746 773, dated Aug 23, 1944. Application P 81 992 VIII b/21 c, dated Feb 11, 1941. Inventors: Manzinger, H. and Obenaus, F. In German. 1.50

782-784 PB L 70141 SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Arrangement for conversion of high-voltage current by means of mechanically operated contacts. Ger. patent 746 774, dated Aug 23, 1944. Application S 143 637 VIII d/21 d^2, dated Jan 15, 1941. Inventor: Koppelmann, F. In German. 1.50
Wiring diagram.
Supplement to Patent 709 656.

785-787 PB L 70141 FERNSEH G. M. B. H., BERLIN. Process for manufacture of electronic discharge vessels with photoelectric cathodes or secondary emission cathodes. Ger. patent 746 777, dated Aug 23, 1944. Application F 88 922 VIII c/21 g, dated Oct 16, 1940. Inventor: Flechsig, W. In German. 1.50

788-790 PB L 70141 FERNSEH G. M. B. H., BERLIN. Remote-controlled single tube sweep generator for producing saw tooth currents. Ger. patent 746 778, dated Aug 23, 1944. Application F 88 068 VIII c/26 g, dated Mar 15, 1940. Inventors: Bähring, H. and Mulert, T. In German. 1.50
Diagram.

791-793 PB L 70141 RHEINMETALL-BORSIG A. G., BERLIN. Ignition for coal-dust firing. Ger. patent 746 779, dated Aug 23, 1944. Application R 114 512 V/24 k, dated Nov 5, 1942. Inventor: Buschler, P. In German. 1.50
Drawing.

794-795 PB L 70141 LEDERFABRIK DURLACH, KARLSRUHE. Process for manufacturing a calf glove leather similar to Mocha leather. Ger. patent 746 780, dated Aug 23, 1944. Application L 105 814 IV d/28 a, dated Nov 5, 1941. In German. 1.50
Supplement to Patent 664 349.

796-798 PB L 70141 THELEN, GIRTEN, & BRANDENBERGS, COLOGNE. Automatic ventilation for artificial limbs. Ger. patent 746 781, dated Aug 23, 1941. Application T 56 801 IX a/30 d, dated Jan 29, 1942. Inventor: Girten, J. In German. 1.50
Drawings.

799-800 PB L 70141 INSTITUT BSTÄNDIG FÜR FUSSHEILHEHELFE UND BANDAGEN, VIENNA. Method for fitting orthopedic arch supports of transparent plastics. Ger. patent 746 782, dated Aug 23, 1944. Application I 70370 IX a/30 d, dated Sep 2, 1941. Inventor: Bstandig, P. In German. 1.50

801-802 PB L 70141 HEIL, C. (Inventor). Hot-packs for healing purposes. Ger. patent 746 783, dated Aug 23, 1944. Application H 165 229 IX a/30 d, dated Apr 27, 1941. In German. 1.50

803-805 PB L 70141 HAMPEL, F. (Inventor). Apparatus for stimulating the skin and increasing the circulation of limbs subjected to cold. Ger. patent 746 784, dated Aug 26, 1944. Application H 169 791 IX a/30 d, dated October 23, 1942. In German. 1.50
Drawings.

806-806 PB L 70141 EHRLICH, R. (Inventor). Invalid-lifting apparatus. Ger. patent

746 785, dated Aug 25, 1944. Application E 56 761 IX a/30 e, dated Dec 12, 1942. In German. 1.50
Drawings.

809-810 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Casting wax for dental purposes. Ger. patent 746 787, dated Aug 25, 1944. Application I 72 081 IV c/39 b, dated Apr 23, 1942. Inventor: Fried, F. In German. 1.50

811-813 PB L 70141 FR. KEILPART & CO., SUHL. Automatic measuring and sorting apparatus for small parts. Ger. patent 746 789, dated Aug 28, 1944. Application K 153 493 IX b/42 b, dated Aug 19, 1938. Inventor: Eckerkunst, W. In German. 1.50
Drawings.

814-815 PB L 70141 KÄSEMANN, E. (Inventor). Large-area polarizers. Ger. patent 746 793, dated Aug 25, 1944. Application K 164 427 IX a/42 h, dated May 21, 1941. In German. 1.50

816-818 PB L 70141 WIEGELMANN, H. (Inventor). Variable shutter for stereoscopic projection. Ger. patent 746 794, dated Aug 28, 1944. Application W 106 384 IX a/42 h, dated Oct 3, 1939. In German. 1.50
Drawings.

819-826 PB L 70141 HUGO JUNKERS WERKE G. M. B. H., MUNICH. Device for continuous calorific valve analysis of gases. Ger. patent 746 796, dated Aug 23, 1944. Application J 66 023 IX b/42 i, dated Nov 25, 1939. Inventor: Renne, W. In German. 1.50
Drawings.

827-829 PB L 70141 SCHAFFER & BUDENBERG G. M. B. H., MAGDEBURG. Stay bolt-like connection of parallel plastic plates for precision instruments. Ger. patent 746 798, dated Aug 28, 1944. Application Sch 125 199 IX b/42 k, dated Jun 30, 1942. Inventor: Schumacher, D. In German. 1.50
Drawings.

830-835 PB L 70141 DEUTSCHE TELEPHONWERKE UND KABELINDUSTRIE A. G., BERLIN Devices for setting numerical values in counters, calculating machines, etc. Ger. patent 746 801, dated Aug 25, 1944. Application D 74 342 IX b/42 m, dated Jan 13, 1937. Inventor: Uhlig, A. In German. 1.50
Drawings.

836-839 PB L 70141 TRIUMPHWERKE NÜRNBERG A. G., NÜRNBERG. Device for automatic roller space advance for recording adding machines. Ger. patent 746 803, dated Aug 25, 1944. Application T 52 693 IX b/42 m, dated Jul 27, 1939. Inventors: Wunderlich, F. and others. In German. 1.50
Drawings.

840-843 PB L 70141 DEUTSCHE TELEPHONWERKE UND KABELINDUSTRIE A. G., BERLIN. Adjustment for adding, bookkeeping machines, etc. Ger. patent 746 804, dated Aug 25, 1944. Application D 77 484 IX b/42 m, dated Mar 11, 1938. Inventor: Hamann, C. In German. 1.50
Drawings.

844-848 PB L 70141 DEUTSCHE HOLLERITH MASCHINEN G. M. B. H., BERLIN. Punch-card recording machine. Ger. patent 746 805, dated Aug 25, 1944. Application D 85 565 IX b/43 a, dated Jul 29, 1941. Inventor: Maul, M. In German. 1.50
Drawings.

849-850 PB L 70141 BELART, H. (Inventor). Aircraft tail unit. Ger. patent 746 806, dated Aug 25, 1944. Application B 198 184 XI/62 b, dated May 10, 1942. In German. 1.50
Drawings.

851-852 PB L 70141 DR. KURT HERBERTS & CO., WUPPERTAL. Protective coatings for thermoplastics. Ger. patent 746 812, dated Aug 25, 1944. Application H 168 315 IV d/75 e, dated May 9, 1942. Inventors: Hoffmann, G. and Grunder, R. In German. 1.50

853-854 PB L 70141 J. & T. M. GREEVES, LTD., BELFAST, IRELAND. Stop and guide for pressure rollers of stretching machines. Ger. patent 746 814, dated Aug 25, 1944. Application G 93 792 VII/76 b, dated Sep 25, 1936. In German. 1.50
Drawings.

855-856 PB L 70141 BOUCKE, H. (Inventor). Multigrid tube hookup for amplifier controls. Ger. patent 746 816, dated Aug 25, 1944. Application B 181 375 VIII a/21 a^2, dated Jan 7, 1938. In German. 1.50
Wiring diagram.

857-860 PB L 70141 LANDIS & GYR A. G., ZUG, SWITZERLAND. Computer for electric power charges according to basic rates. Ger. patent 746 817, dated Aug 25, 1944. Application L 89 323 VIII d/21 e, dated Dec 7, 1935. In German. 1.50
Drawings.

861-862 PB L 70141 WINTERSCHALL A. G., KASSEL. Process for gasification of powdered fuels according to Patent 686 761. Ger. patent 746 818, dated Aug 25, 1944. Application W 101 448 V/24 e, dated Jul 2, 1937. Inventor: Schmalfeldt, H. In German. 1.50
Drawing.
Supplement to Patent 686 761.

863-864 PB L 70141 BRUCKMAYER, F. (Inventor). Method to determine the external support resistance and internal bending moment and transverse forces of loaded girders. Ger. patent 746 819, dated Aug 25, 1944. Application B 192 166 IX b/42 k, dated Oct 22, 1940. In German. 1.50
Drawings.

865-867 PB L 70141 MÜLLER, W. (Inventor). Variable dial for clocks with 24-hour indication. Ger. patent 746 820, dated Aug 25, 1944. Application W 150 430 IX b/43 a, dated Mar 30, 1941. In German. 1.50
Drawings.

868-869 PB L 70141 CHEMISCHE STUDIEN GES. UNIWAPO M. B. H., BERLIN. Production of alkali silicates with simultaneous recovery of sulfur. Ger. patent 746 821, dated Aug 25, 1944. Application C 53 779 IV b/12 i, dated Mar 11, 1938. Inventors: Meppen, B. and Scheel, K. In German. 1.50
Supplement to Patent 719 816.

870-871
PB L 70141
LONZA-WERKE ELEKTROCHEMISCH FABRIKEN G. M. B. H., WALDSHUT. Method for production of solutions of organic cellulose esters. Ger. patent 746 822, dated Aug 8, 1944. Application L 100 904 IV c/12 o, dated May 24, 1940. Inventor: Engelmann, H. In German. 1.50

872-873
PB L 70141
FRANZ HERMANN RAUSCH, BERLIN Production of fertilizer from potato tops. Ger. patent 746 824, dated Aug 28, 1944. Application R 108 535 IV b/16, dated Feb 24, 1940. Inventors: Schwabe, K. and others. In German. 1.50

874-875
PB L 70141
KAELBLE, C. (Inventor). Road-roller. Ger. patent 746 826, dated Aug 25, 1944. Application K 135 333 V/19 e, dated Aug 12 1939. In German. 1.50
Drawings.
Supplement to Patent 715 671.

876-879
PB L 70141
LOUIS FRIEDMANN & CO., PRAGUE, CZECHO-SLOVAKIA. Automatic control for low pressure steam heating (for trains). Ger. patent 746 827, dated Aug 25, 1944. Application F 87 769 II/20 c, dated Dec 23, 1939. In German. 1.50
Drawing.

880-881
PB L 70141
ALLGEMEINE ELEKTRICITÄTS GES. BERLIN. Frequency modulation of a carrier by means of a cathode ray tube. Ger. patent 746 828, dated Aug 25, 1944. Application L 104 186 VIII a/21 a^4, dated May 7, 1941. Inventors: Pentzig, A. and Colani, C. In German. 1.50
Drawings.

882-883
PB L 70141
RIESE, M. (Inventor). Storage battery plate with metallized plastic support, of grid-like construction. Ger. patent 746 829, dated Aug 25, 1944. Application R 109 960 IV b/21 b, dated May 1, 1941. In German. 1.50
Drawing.

884-885
PB L 70141
RIESE, M. (Inventor). Storage battery plate. Ger. patent 746 830, dated Aug 25, 1944. Application R 110 634 IV b/21 b, dated Jul 23, 1941. In German. 1.50

886-888
PB L 70141
VOIGT & HAEFFNER A. G., FRANKFURT A. M. Fire damp-proof built-up rotary switch. Ger. patent 746 832, dated Aug 25, 1944. Application V 39084 VIII b/21 c, dated Aug 14, 1942. Inventors: Hahn, W. and Rosenstock, A. In German. 1.50
Drawings.

889-891
PB L 70141
SCHOELLER & CO. ELEKTROTECHNISCHE FABRIK, FRANKFURT A. M. Built-up rotary switch with ceramic disks. Ger. patent 746 833, dated Aug 25, 1944. Application Sch 122 050 VIII b/21 c, dated Feb 28, 1941. Inventor: Estler, M. In German. 1.50
Drawing.

892-893
PB L 70141
PHILIPS PATENTVERWALTUNG G. M. B. H., BERLIN. Vacuum tube with a hot cathode, collector, and secondary emission electrode. Ger. patent 746 835, dated Aug 25, 1944. Application N 39 693 VIII c/21 g, dated Jul 24, 1936. In German. 1.50

894-897
PB L 70141
COMPAGNIE GENERALE DE GEOPHYSIQUE, PARIS. Process and instruments for geodetic studies. Ger. patent 746 836, dated Aug 25, 1944. Application C 54797 VIII c/ 21 g, dated Feb 19, 1939. Inventor: Jakosky, J. In German. 1.50
Drawings.

898-899
PB L 70141
I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Production of metal-containing dyes. Ger. patent 746 839, dated Aug 25, 1944. Application I 63 468 IV a/22 a, dated Jan 12, 1939. Inventor: Pfitzner, H. In German. 1.50

900-901
PB L 70141
BABEL, H. (Inventor). Method for grading furs. Ger. patent 746 841, dated Aug 25, 1944. Application B 202 728 IV d/28 a, dated Jul 6, 1938. In German. 1.50
Supplement to Patent 741 594.

902-904
PB L 70141
ETRICH, I. (Inventor). Apparatus for bending bast fiber stems (prior to processing). Ger. patent 746 842, dated Aug 8, 1944. Application E 55 940 VII/29 a, dated Apr 8, 1942. In German. 1.50
Drawing.

905-906
PB L 70141
HUGO BINDER LABORATORIUM FÜR ZAHNTECHNIK, NEUSTADT. Process and equipment for casting impressions for dental plates. Ger. patent 746 843, dated Aug 26, 1944. Application B 197 149 IX a/30 b, dated Feb 15, 1942. Inventor: Bril, P. In German. 1.50
Drawings.

907-909
PB L 70141
LANG, F. (Inventor). Udder truss as an aid in drying milk cows. Ger. patent 746 844, dated Aug 25, 1944. Application I 70 317 IX a/30 c, dated Aug 26, 1941. In German. 1.50
Drawings.

910-912
PB L 70141
CARL BIRKENSTOCK CO., STEINHUDE. Flexible inner sole. Ger. patent 746 845, dated Oct 16, 1944. Application B 193 719 IX a/30 d, dated Mar 22, 1941. In German. 1.50
Drawings.

913-915
PB L 70141
HEINRICH SCHRÖDER & CO., BREMEN. Furnace for steam baths. Ger. patent 746 846, dated Aug 25, 1944. Application Sch 124 966 IX a/30 f, dated May 24, 1942. In German. 1.50
Drawing.

916-920
PB L 70141
HOFMANN, A. (Inventor). Equipment for radium therapy. Ger. patent 746 847, dated Aug 30, 1944. Application H 168 736 IX a/30 g, dated Jan 2, 1942. In German. 1.50
Drawings.

921-922
PB L 70141
BÖHME FETTCHEMIE G. M. B. H., CHEMNITZ. Cosmetics. Ger. patent 746 848, dated Aug 25, 1944. Application B 197 410 IV a/30 h, dated Mar 8, 1942. Inventor: Markert, H. In German. 1.50

923-924
PB L 70141
HERKENRATH, F. (Inventor). Chip-smelting furnace. Ger. patent 746 849, dated Aug 25, 1944. Application H 166 737 VI a/31 a, dated Nov 11, 1941. In German. 1.50
Drawings.

925-926
PB L 70141
R. STAHL CO., STUTTGART. Safety housing for elevators

in railway stations. Ger. patent 746 850, dated Nov 8, 1944. Application St 60 177 IX/ 35 a, dated Nov 5, 1940. Inventor: Maier, W. In German. 1.50
Drawings.

927-928 PB L 70141 VEREINIGTE LEICHTMETALL-WERKE G. M. B. H., HANNOVER. Use of aluminum alloys. Ger. patent 746 851, dated Aug 28, 1944. Application V 34673 VI a/40 b, dated Mar 11, 1938. Inventor: Kostron, H. In German. 1.50

929-930 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. and DUISBURGER KUPFERHÜTTE, DUISBURG. Processing of zinc scrap. Ger. patent 746 852, dated Aug 28, 1944. Application I 66 795 VI a/40 c, dated Apr 4, 1940. In German. 1.50

931-934 PB L 70141 HANS-BODO WILLERS, BERLIN. Device for checking the accuracy of chronometers by means of cathode ray tubes. Ger. patent 746 853, dated Aug 28, 1944. Application I 61 540 IX b/42 c, dated Jun 3, 1938. Inventors: Reinken, L. and Bremner, F. In German. 1.50
Wiring diagrams.

935-937 PB L 70141 ALLGEMEINE ELEKTRICITÄTS-GES. BERLIN. Magnetic sound recording. Ger. patent 746 855, dated Aug 28, 1944. Application L 101 727 IX a/42 g, dated Sep 1, 1940. Inventor: Lübeck, H. In German. 1.50

938-940 PB L 70141 GEBR. SCHARF NACHF. BERLIN. Switch for electric phonographs. Ger. patent 746 856, dated Aug 28, 1944. Application Sch 122 301 IX a/ 42 g, dated Apr 6, 1941. Inventor: Hussendorfer, F. In German. 1.50

941-943 PB L 70141 ZEISS IKON A. G., DRESDEN. Process and equipment for visualization of infrared photographs. Ger. patent 746 858, dated Dec 6, 1944. Application Z 26 323 IX a/ 42 h, dated Mar 22, 1941. Inventor: Ploke, M. In German. 1.50
Drawing.

944-945 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Equipment for analysis of the lubricating properties of oils. Ger. patent 746 861, dated Aug 28, 1944. Application I 70 674 IX b/42 l, dated Oct 22, 1941. Inventors: Halder, R. and Weber, G. In German. 1.50
Drawings.

946-949 PB L 70141 KOOPERATIVA FÖRBUNDET, FÖRENING U. P. A., STOCKHOLM, SWEDEN. Decimal shift arrangement for adding machines, cash registers, etc. Ger. patent 746 862, dated Aug 28, 1944. Application K 150 351 IX b/42 m, dated Apr 20, 1938. In German. 1.50

950-952 PB L 70141 DEETJEN, W. (Inventor). Process and equipment for landscape reliefs. Ger. patent 746 863, dated Aug 28, 1944. Application D 85 199 IX b/42 m, dated Jun 8, 1941. In German. 1.50

953-961 PB L 70141 ANKER WERKE A. G., BIELEFELD. Control for card-punch equipment. Ger. patent 746 864, dated Sep 4, 1944. Application A 86 905 IX b/43 a, dated May 20, 1938. Inventor: Dueball, E. In German. 1.50

962-964 PB L 70141 ALLGEMEINE ELEKTRICITÄTS GES., BERLIN. Vending machines for electricity, gas, water, etc. Ger. patent 746 865, dated Oct 2, 1944. Application U 97597 IX b/43 b, dated Apr 1, 1939. Inventor: Lehmann, K. In German. 1.50

966-966 PB L 70141 ANDRIESSEN, J. (Inventor). Tobacco pipe (with inner bowl). Ger. patent 746 866, dated Aug 28, 1944. Application A 93 347 X/44 b, dated May 1, 1941. In German. 1.50
Drawings.

967-969 PB L 70141 L'ORANGE, M. (Inventor). Fuel injection pump. Ger. patent 746 867, dated Aug 28, 1944. Application O 20 629 I a/46 c^2, dated May 24, 1933. In German. 1.50
Drawings.

970-971 PB L 70141 GLYCO METALLWERKE DAELEN & LOOS WILSBADEN. Floating bearing. Ger. patent 746 868, dated Aug 28, 1944. Application G 103 090 XII/47 b, dated Feb 27, 1941. Inventor: Garre, B. In German. 1.50

972-974 PB L 70141 HACKETHAL DRAHT UND KABELWERKE A. G., HANNOVER. Use of a copper alloy for plating iron, as an intermediate layer between copper and iron, etc., and the manufacturing process. Ger. patent 746 870, dated Aug 28, 1944. Application H 168 504 VI a/48 b, dated May 30, 1942. Inventor: Schaarschächter, C. In German. 1.50

974-975 PB L 70141 KEMENATER, H. (Inventor). Diaphragm-holder for mouthpieces of saxophones, etc. Ger. patent 746 871, dated Aug 28, 1944. Application K 166 801 IX a/51 c, dated Dec 13, 1942. In German. 1.50

976-977 PB L 70141 CHEMISCHE FABRIK KALK G. M. B. H., COLOGNE. Production of nitrogen-containing fodder. Ger. patent 746 872, dated Aug 28, 1944. Application C 56 700 IV b/53 g, dated Aug 1, 1941. Inventors: Oehme, H. and Herrmuth, E. In German. 1.50

978-979 PB L 70141 I. G. FARBENINDUSTRIE A. G., FRANKFURT A. M. Roll-film packing. Ger. patent 746 874, dated Dec 5, 1944. Application I 72 087 IX a/57 c, dated Apr 23, 1942. Inventor: Goldhammer, L. In German. 1.50
Drawings.

980-982 PB L 70141 THEODOR HORNKOHL METALLWAREN-FABRIK, BREMEN. Automobile heater. Ger. patent 746 878, dated Sep 27, 1944. Application H 164 591 II/63 c, dated Feb 15, 1941. Inventor: Wolf, H. In German. 1.50
Drawings.

983-984 PB L 70141 AKTIENGESELLSCHAFT VORMALS SKODAWERKE, PILSEN. Steam radiators with circular elements for use in sugar manufacture). Ger. patent 746 880, dated Aug 28, 1944. Application A 94 184 IV a/89 e, dated Sep 27, 1941. Inventor: Chalupa, J. In German. 1.50
Drawings.

985-988 PB L 70141 — FRÄULEIN ALÜPPEL, MASCHINENFABRIK, WUPPERTAL. Conveyor for underground pit mining. Ger. patent 746 881, dated Aug 28, 1941. Application F 90 106 VI b/5 d, dated Jun 6, 1941. Inventor: Walter, F. In German. Drawings. 1.50

989-993 PB L 70141 — LA SOUDURE ELECTRIQUE AUTOGENE S. A., BRUSSELS. Production of rolled profiles of weak cross section, of sheet metals, billets, ingots, or similar scrap. Ger. patent 746 882, dated Aug 28, 1944. Application M 142 377 I b/7 b, dated Jul 23, 1938. Inventor: Mautsch, R. In German. Drawings. 1.50

994-996 PB L 70141 — F. BERNHARDT MASCHINENFABRIK, LEISNIG. Machine for drying fiber strips. Ger. patent 746 883, dated Aug 28, 1944. Application B 196 496 VII/8 b, dated Dec 18, 1941. In German. Drawings. 1.50

997-998 PB L 70141 — WERNER ROLL, STUTTGART. Mangle. Ger. patent 746 884, dated Aug 28, 1944. Application R 106 024 VII/8 d, dated Sep 9, 1939. In German. Drawings. 1.50

999-1001 PB L 70141 — KLÖCKNER HUMBOLDT DEUTZ A. G., COLOGNE. Feeding device for hydrocarbon-like briquette binding agents. Ger. patent 746 885, dated Aug 28, 1944. Application K 161 310 VI b/10 b, dated Jun 6, 1941. Inventor: Kramer, J. In German. Drawings. 1.50

1002-1003 PB L 70141 — WEISS, K. (Inventor). Dust filter for air and gaseous materials. Ger. patent 746 886, dated Aug 28, 1944. Application W 106 948 IV b/12 e, dated Mar 1, 1940. In German. Drawings. 1.50

1004-1006 PB L 70141 — METALLGESELLSCHAFT A. G., FRANKFURT A. M. Production of hydrocarbons from carbon monoxide and hydrogen. Ger. patent 746 887, dated Aug 30, 1944. Application M 146 080 IV c/12 o, dated Sep 13, 1939. Inventors: Weittenhiller, H. and Herbert, W. In German. 1.50

1007-1009 PB L 70141 — N. V. DE BATAAFSCHE PETROLEUM MAATSCHAPPIJ, THE HAGUE, HOLLAND. Process for chlorination of hydrocarbons. Ger. patent 746 888, dated Jun 15, 1944. Application N 44 140 IV d/12 o, dated Aug 17, 1940. Inventors: Vaughn, W. and Kust, F. In German. 1.50

1010-1014 PB L 70141 — AKTIEN-GESELLSCHAFT FÜR CHEMISCHEN-FABRIKEN POMMERENSDORF-MILCH, STETTIN. Production of finely crystalline superphosphate with a high content of water-and ammonium citrate-soluble phosphoric acid. Ger. patent 746 889, dated Aug 28, 1944. Application A 928 27 IV b/16, dated Feb 2, 1941. Inventor: Deplanque, R. In German. Drawings. Supplement to Patent 741 227. 1.50

PB L 70413. I.G. FARBENINDUSTRIE A.G., BOBINGEN/BAYERN, GERMANY. German design patents on plastics, textile products, optical and photographic goods. (FIAT Microfilm Reel E 8, Frames 1-935) 1937-1942. 935 f. Price: Microfilm-$6.00 - Enlargement Print-$93.50

This reel was prepared by FIAT investigators in Germany. 272 individual items are listed below and will be available as enlargement prints. The entire reel may be purchased as a microfilm for $6.00 Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1-3 PB L 70413	SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT, GERMANY. Winding wire for electrical machines. Registered design 1 523 556/21c dated Mar 25, 1941. In German.	$1.50
4-7 PB L 70413	ZEISS-IKON A.G., DRESDEN. Envelope for diapositives. Registered design 1 523 562/57c dated May 17, 1941. In German.	1.50
8-10 PB L 70413	TUCKWANTEL, WALTER (Inventor). Elastic ampule for pharmaceutical products such as injecting fluids, wound prescriptions, etc. Registered design 1 523 624/30k dated Aug 28, 1942. In German.	1.50
11-13 PB L 70413	KALI-CHEMIE A.G., BERLIN-NIEDERSCHOENEWEIDE. Device for the mechanical determination of the exposure time for X-ray photographs. Registered design 1 523 630/75a dated Sep 7, 1942. In German.	1.50
14-17 PB L 70413	FRIEDRICH, FRANZ (Inventor). Protective glasses for goggles. Registered design 1523 637/42h dated Feb 17, 1941. In German.	1.50
18-20 PB L 70413	BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Projector installation. Registered design 1 523 651/57a dated Aug 25, 1941. In German.	1.50
21-23 PB L 70413	BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Projector with easily removable container for take-up reels. Registered design 1 523 652/57a dated Aug 27, 1941. In German.	1.50
24-26 PB L 70413	BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Portable projector with easily removable lamp housing. Registered design 1523 653/57a dated Aug 27, 1941. In German.	1.50
27-29 PB L 70413	KABELWERK VACHA A.G., VACHA/RHOEN. Corrugated pipe for electrical lines, having at least double helical curve-like groovings. Registered design 1 523 662/21c dated Dec 30, 1941. In German.	1.50
30-33 PB L 70413	ZEISS-IKON A.G., DRESDEN. View finder for stereo-cameras. Registered design 1 523 692/57a dated Aug 30, 1941. In German.	1.50
34-36 PB L 70413	HAFTA KUNSTSTOFF-GESELLSCHAFT, HUELNER U. CO., K.-G., BERLIN. Tube form wound in several layers. Registered design 1 523 692/81e dated Aug 2, 1940. In German.	1.50
37-40 PB L 70413	DEUTSCHE TELEFONWERKE UND KABELINDUSTRIE A.G., BERLIN. Box level. Registered design 1 523 695 dated Jun 15, 1942. In German.	1.50
41-43 PB L 70413	ALAEI, WALTER (Inventor). Artificial denture made of synthetic resin. Registered design 1 523 730/30h dated Jun 15, 1942. In German.	1.50

44-55 PB L 70413 SIEMENS & HALSKE AKT.-GES., BERLIN-SIEMENSSTADT. Device for automatic adjustment to the brightness of an object when taking photographs. Registered design 1 523 768/57a dated Mar 17, 1941. In German. 1.50

56-59 PB L 70413 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Device for electric pick-ups. Registered design 1 523 769 dated Apr 18, 1941. In German. 1.50

60-62 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Exposure meter for color photographs. Registered design 1 523 777/57a dated Jun 25, 1942. In German. 1.50

63-65 PB L 70413 BARTSCH, GEORG (Inventor). Closed transparent case, which protects the enclosed object against dirt and dust. Registered design 1523 778/33d dated Jun 29, 1942. In German. 1.50

66-67 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Device for developing film strips of varying widths. Registered design 1 523 781/57c dated Jul 20, 1942. In German. 1.50

68-70 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Transmission mechanism for reproduction devices. Registered design 1 523 793/57a dated Sep 8, 1942. In German. 1.50

71-73 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Feeding belt for the continuous production of photographs. Registered design 1 523 794/57a dated Sep 9, 1943. In German. 1.50

74-76 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Reflex printing apparatus. Registered design 1 523 795/57a dated Sep 9, 1942. In German. 1.50

77-81 PB L 70413 ZEISS IKON A.G., DRESDEN. Projection printing apparatus for stereoscopic picture pairs. Registered design 1 523 805/57a dated Mar 27, 1940. In German. 1.50

82-85 PB L 70413 ZEISS-IKON A.G., DRESDEN. Device to prevent film particles from settling on film guides. Registered design 1 523 806/57a dated Jul 12, 1940. In German. 1.50

86-87 PB L 70413 VITA ZAHNFABRIK H. RAUTER O. H.G., ESSEN. Plastic tooth with recess. Registered design 1 523 839/30b dated Mar 7, 1941. In German. 1.50

88-90 PB L 70413 BAUER, HANS (Inventor). Printing frame for stereo pictures. Registered design 1 523 866/57c dated Sep 12, 1942. In German. 1.50

91-96 PB L 70413 ZEISS-IKON A.G., DRESDEN. View finder for cameras. Registered design 1 523 871/57a dated May 14, 1937. In German. 1.50

97-100 PB L 70413 KODAK A.G., BERLIN. Central shutter. Registered design 1 523 876/57a dated Apr 28, 1941. In German. 1.50

101-103 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Portable dark room for photo printing. Registered design 1 523 892/57c dated Jul 9, 1942. In German. 1.50

104-107 PB L 70413 LANGE, CONRAD (Inventor). Device for calculating depth of focus. Registered design 1 523 909/57a dated Sep 16, 1942. In German. 1.50

108-116 PB L 70413 KODAK A.G., BERLIN. Drying apparatus for film strips. Registered design 1 523 913/39a dated Nov 19, 1937. In German. 1.50

117-118 PB L 70413 SEMPERIT OESTERREICHISCH-AMERIKANISCHE GUMMIWERKE AKT.-GES., WIEN. Dipping mold for dipped hollow bodies. Registered design 1 523 914/39a dated Mar 6, 1939. In German. 1.50

119-121 PB L 70413 KODAK AKT.-GES., BERLIN. Die-casting tool for thermoplastic material. Registered design 1 523 915/39a dated Apr 19, 1939. In German. 1.50

122-125 PB L 70413 SCHNEIDBERGER, HEINRICH (Inventor). Synthetic resin press particularly automatic resin press for the manufacture of pressed pieces with winding. Registered design 1 523 916/39a dated Apr 29, 1939. In German. 1.50

126-129 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Apparatus for welding thermoplastic material. Registered design 1 523 942/39a dated Mar 20, 1942. In German. 1.50

130-132 PB L 70413 FRIEDRICH, WILLI (Inventor). Tube made of plastic. Registered design 1 523 969/81c dated Sep 11, 1942. In German. 1.50

133-134 PB L 70413 VEREINIGTE PAPIERWERKE A.G., NUERNBERG. Production of cellulose cotton. Registered design 1 524 030/8k dated Jan 29, 1941. In German. 1.50

135-140 PB L 70413 PRESSWERK A.G., ESSEN-BERGEBORBECK. Extrusion press mold for the preheating of synthetic resin masses. Registered design 1 524 032/39a dated Feb 22, 1941. In German. 1.50

141-143 PB L 70413 BARMER MASCHINENFABRIK A.G., WUPPERTAL-OBERBARMEN. Drive and support for thread guiding devices arranged in pairs for the production of rayon in a continuous process. Registered design 1 524 038/32a dated Jun 27, 1941. In German. 1.50

144-146 PB L 70413 DEUTSCHE CELLOLOID-FABRIK A.G., EILENBURG. Corrosion-resisting hollow bodies such as pipes, containers, and similar objects of any kind of material. Registered design 1 524 060/47f dated May 6, 1942. In German. 1.50

147-149 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Flexible plastic tubes. Registered design 1 524 067/47f dated Jun 5, 1942. In German. 1.50

150-152 PB L 70413 BRANDT, PAUL FRIEDRICH (Inventor). Viewer for transparents. Registered design 1 524 121/42h dated Feb 5, 1942. In German. 1.50

153-156 PB L 70413 UFNOWSKI, WACLAW (Inventor). Device for the separation of carbon-disulfide and the like from viscose fibers cut in an acid state for the purpose of a subsequent recovery. Registered design 1 524 128/29b dated Feb 20, 1941. In German. 1.50

157-159 PB L 70413 — I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Photoelectric apparatus for the determination of the printing values of color films. Registered design 1 524 161/57a dated Aug 17, 1942. In German. 1.50

160-164 PB L 70413 — KODAK A.G., BERLIN. Camera with telescopelike extending lens tubes. Registered design 1 524 241/57a dated Sep 19, 1938. In German. 1.50

165 PB L 70413 — VEREINIGTE ASBESTWERKE, DANCO-METZELL & CO., A.G., DORTMUND. Thread, containing other organic, inorganic and synthetic textile fibers besides asbestos. Registered design 1 524 248/8k dated Apr 14, 1940. In German. 1.50

166-168 PB L 70413 — ZEISS-IKON A.G., DRESDEN. Glasses for viewing stereoscopic pictures. Registered design 1 524 309/42h dated May 29, 1941. In German. 1.50

169-172 PB L 70413 — GESELLSCHAFT FUER ELEKTROAKUSTISCHE UND MECHANISCHE APPARATE M.B.H., BERLIN/KOEPENICK. Cathode ray tube. Registered design 1 524 318/21a dated Mar 21, 1942. In German. 1.50

173-185 PB L 70413 — ERKENSALAR G.M.B.H., DUEHREN/RHLD. Centrifuge for cleaning paper pulp, wood pulp and similar suspensions. Registered design 1 524 341/55b dated Mar 9, 1938. In German. 1.50

186-188 PB L 70413 — KODAK A.G., BERLIN. Camera with a helical focusing mount. Registered design 1 524 347/57a dated Nov 24, 1938. In German. 1.50

189-193 PB L 70413 — KUETTNER, FR., A.G., PIRNA A. E. Spinning can chamber with a central passage for the thread guiding tube. Registered design 1 524 361/29a dated Feb 19, 1942. In German. 1.50

194-196 PB L 70413 — HAFTA KUNSTSTOFFGESELLSCHAFT, HUEBNER, K.G., BERLIN. Closing plate for tubes, especially for tubes made of plastics. Registered design 1 524 414/81c dated Nov 16, 1939. In German. 1.50

197-198 PB L 70413 — ZEISS-IKON A.G., DRESDEN. Illumination device, especially for projection purposes. Registered design 1 524 472/42h dated Sep 19, 1941. In German. 1.50

199-201 PB L 70413 — DYNAMIT A.G., VORM. ALFRED NOBEL & CO., TROISDORF B. KOELN. Device for the separation of flaky nitrocellulose from the nitrating acid. Registered design 1 524 473/78c dated Jan 5, 1942. In German. 1.50

202-204 PB L 70413 — VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEDER, HAMBURG. Enlarging frames for printing apparatus. Registered design 1 524 475/57a dated Oct 1, 1942. In German. 1.50

205-207 PB L 70413 — FELDMUEHLE A.G., ROHRSCHACH/SWITZERLAND. Twisting device for rayon crepe. Registered design 1 524 480/76c dated Dec 11, 1943. In German. 1.50

208-210 PB L 70413 — VEREINIGTE FOTOKOPIER-APPARATE K.G., BOEDER, HAMBURG. Camera for reproduction purposes. Registered design 1 524 515/57a dated Sep 18, 1942. In German. 1.50

211-213 PB L 70413 — DAUB, HEINZ (Inventor). Apparatus for the dry developing of blue prints. Registered design 1 524 546 dated Aug 26, 1942. In German. 1.50

214-217 PB L 70413 — SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Cutout relay, especially for control or recording apparatus installed in rooms endangered by explosion. Registered design 1 524 552/42d dated Mar 28, 1939. In German. 1.50

218-221 PB L 70413 — ROEMMLER, H., A.G., SPREMBERG N.L. Bushing guide made of pressed synthetic resin. Registered design 1 524 558/47f dated Jan 6, 1941. In German. 1.50

222-224 PB L 70413 — SIEMENS/REINIGER WERKE A.G., BERLIN. High tension transformer, especially for X-ray apparatus. Registered design 1 524 562/21d dated Apr 5, 1941. In German. 1.50

225-227 PB L 70413 — SIEMENS-REINIGER-WERKE, AKT.-GES., BERLIN. High tension winding of a high tension transformer. Registered design 1 524 563/21d dated Apr 24, 1941. In German. 1.50

228-230 PB L 70413 — SIEMENS-SCHUCKERTWERKE A.G., BERLIN-SIEMENSSTADT. Round multiconductor for immersion motors, etc. Registered design 1 524 567/21d dated May 22, 1941. In German. 1.50

231-234 PB L 70413 — ZEISS, CARL, JENA. Aiming mechanism. Registered design 1 524 576/72f dated Oct 25, 1941. In German. 1.50

235-237 PB L 70413 — BROWN, BOVERI & CIE, AKT.-GES., MANNHEIM. Insulating parts consisting of superpolyamide or polyvinyl-carbazole for commutators of electric machines. Registered design 1 524 578/21d dated Jan 16, 1942. In German. 1.50

238-240 PB L 70413 — BROWN, BOVERI & CIE., AKT.-GES., MANNHEIM. Highly heat resistant resins for insulating parts of commutators. Registered design 1 524 579/21d dated Jan 15, 1942. In German. 1.50

241-243 PB L 70413 — BROWN, BOVERI & CIE., A.G., MANNHEIM. Foils of superpolyamide, cellulose acetobutyrate or cellulose triacetate for insulating parts of commutators of electric machines. Registered design 1 524 580/21d dated Jan 16, 1942. In German. 1.50

244-253 PB L 70413 — PINTSCH, JULIUS, K.G., BERLIN. Measuring diaphragm for liquids. Registered design 1 524 693/42e dated Jan 26, 1939. In German. 1.50

254-256 PB L 70413 — DYNAMIT A.G., VORM. ALFRED NOBEL & CO., TROISDORF BEZ. KOELN. Connecting or reinforcing ring for pipe lines made of thermoplastic material. Registered design 1 524 712/39a dated Dec 5, 1941. In German. 1.50

257-260 PB L 70413 — PROSS, BERNHARD (Inventor). Device to move the spinning can for multiple ribbons. Registered design 1 524 717/760 dated Apr 4, 1942. In German. 1.50

261-263 PB L 70413 — SCHNURLE, CARL (Inventor). Tie-holding insert for soft collars. Registered design 1 524 723/3a dated Aug 23, 1942. In German. 1.50

264-266 PB L 70413 — UNIVERSUM-FILM A.G., BERLIN. Indicator for the grey value of color film exposures. Reg-

istered design 1 524 725/57a, n.d. In German. 1.50

267-270 PB L 70413 ISOLIERMITTELFABRIK E. LEYER, WUPPERTAL-BARMEN. Installation for the production of insulating cords. Registered design 1 524 756/25c dated Nov 22, 1941. In German. 1.50

271-272 PB L 70413 KLANGFILM-APPARATE G.M.B.H., BERLIN. Frame for transparents in projectors. Registered design 1 524 769/42h dated Jun 25, 1942. In German. 1.50

273-274 PB L 70413 MAROHN, RUDOLF (Inventor). Twin magnifying glasses. Registered design 1 524 772/42h dated Jul 1, 1942. In German. 1.50

275-278 PB L 70413 BALDA-WERK MAX BALDENEG, DRESDEN. Film spool for auxiliary spools of projectors. Registered design 1 524 776/42h dated Jul 25, 1942. In German. 1.50

279-280 PB L 70413 KUHLMANN, WILHELM (Inventor). Title change frame for work photographs. Registered design 1 524 780/42c dated Aug 4, 1942. In German. 1.50

281-284 PB L 70413 PAPELKA, JOHANN (Inventor). Kaleidoscope. Registered design 1 524 782/42h dated Aug 13, 1942. In German. 1.50

285-288 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Device for sound film projectors for obtaining uniform film speeds. Registered design 1 524 802/42g dated Feb 5, 1937. In German. 1.50

289-291 PB L 70413 LORENZ, C., A.G., BERLIN-TEMPELHOF. Slide coupling magnetographs. Registered design 1 524 804/42g dated Aug 12, 1938. In German. 1.50

292-295 PB L 70413 KLANGFILM G.M.B.H., BERLIN. Optic for sound recording, projecting and printing apparatus. Registered design 1 524 806/42g dated Jun 30, 1939. In German. 1.50

296-298 PB L 70413 ZEISS AEROTOPOGRAPH G.M.B.H., JENA. Stereoscope. Registered design 1 524 818/42h dated May 26, 1942. In German. 1.50

299-306 PB L 70413 SCHIMAIER, FRITZ (Inventor). Device for masking film diapositives. Registered design 1 524 832/42h dated Aug 20, 1942. In German. 1.50

307-312 PB L 70413 KODAK A.G., BERLIN. Roll film switching device. Registered design 1 524 852/57a dated Sep 20, 1938. In German. 1.50

313-315 PB L 70413 SUEDDEUTSCHE SPINDELWERKE ZINSER, HANS HINSER, EBERSBACH. Thread rail for drawing multiple rollers. Registered design 1 524 867/76c dated Jun 16, 1941. In German. 1.50

316-317 PB L 70413 ALLGEMEINE ELECTRIZITAETS-GESELLSCHAFT, BERLIN. Electric heating line, consisting of a metallic conductor which is embedded in organic plastics. Registered design 1524 870/21h dated Apr 13, 1942. In German. 1.50

318-320 PB L 70413 FOTOCHEMA GESELLSCHAFT M.B.H., ERZEUGUNG VON PLATTEN, FILMEN U. CHEMISCHEN PRAEPARATEN, KOENIG-GRAETZ. Electric exposure meter. Registered design 1 524 882/42h dated Aug 26, 1941. In German. 1.50

321-323 PB L 70413 ZEISS IKON A.G., DRESDEN. Moving device for pictures of projectors with film transport. Registered design 1 524 890/57a dated May 7, 1942. In German. 1.50

324-327 PB L 70413 DAUB, HEINZ (Inventor). Cabinet for storing film strips. Registered design 1 524 899/57c dated Jul 28, 1942. In German. 1.50

328-331 PB L 70413 GEBR. HANNEMANN & CIE., G.M.B.H., DUEREN/RHLD. Installations for firing cartridges, especially signal cartridges. Registered design 1 524 907/72b dated Dec 9, 1942. In German. 1.50

332-334 PB L 70413 HEILINGOETTER, RICHARD (Inventor). Electrical contact printer. Registered design 1 524 915/57c dated Oct 3, 1942. In German. 1.50

335-338 PB L 70413 SCHLEINITZ, PAUL (Inventor). Seal made of substitute material for preserving jars of all kinds. Registered design 1 524 923/53b dated Sep 22, 1941. In German. 1.50

339 PB L 70413 NEUMANN & BARTSCH G.M.B.H., NEUGERSDORF I.S. Knitted fabric made of pure staple fiber. Registered design 1 524 944/3b dated Jul 18, 1942. In German. 1.50

340-342 PB L 70413 BERNSTEIN, ERNST (Inventor). Sausage casing. Registered design 1 524 946/66b dated Jul 22, 1942. In German. 1.50

343-345 PB L 70413 FRITON, BRUNO (Inventor). Rotating table on X-ray apparatus for chest X-rays. Registered design 1 524 959 dated Sep 29, 1942. In German. 1.50

346-348 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Prismatic range finder of symmetrical structure. Registered design 1 524 964/42c dated Nov 18, 1939. In German. 1.50

349-353 PB L 70413 ALLGEMEINE ELECTRIZITAETSGESELLSCHAFT, BERLIN. Dictaphone according to the magnetic sound recording process. Registered design 1 524 968/42g dated Nov 29, 1940. In German. 1.50

354-361 PB L 70413 KODAK A.G., BERLIN. Focal plane plate shutter. Registered design 1 525 005/57a dated Nov 2, 1940. In German. 1.50

362-363 PB L 70413 LOEFFLER, LUDWIG (Inventor). Clinometer and rangefinder. Registered design 1 525 022/42c dated Jul 15, 1942. In German. 1.50

364-366 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., KOEGER, HAMBURG. Work table for printing apparatus. Registered design 1 525 029/57c dated Sep 8, 1942. In German. 1.50

367-369 PB L 70413 SPINNSTOFFWERK GLAUCHAU A.G., GLAUCHAU I.S. UND DEUTSCHER ZELLWOLLRING E.V., BERLIN. Carrier for the wet finishing process of the spinning cake and the like. Registered design 1 525 050/29a dated Nov 21, 1940. In German. 1.50

370-372 PB L 70413 SPINNSTOFFWERK GLAUCHAU A.G., GLAUCHAU I.S. UND DEUTSCHER ZELLWOLLRING E.V., BERLIN. Filter cover with safety device.

Registered design 1 525 050/29a dated Nov 21, 1940. In German. 1.50

373-378 PB L 70413 KODAK AKT./GES., BERLIN. Tripod for cameras and other supporting purposes. Registered design 1 525 062/42c dated Nov 22, 1941. In German. 1.50

379-381 PB L 70413 BERTHOLD, KURT (Inventor). Light rear sight for firearms. Registered design 1 525 074/72f dated May 26, 1942. In German. 1.50

382-384 PB L 70413 BRAUNMILLER, KARL (Inventor). Belt drawing frame with tension block. Registered design 1 525 075/76c dated May 26, 1942. In German. 1.50

385-386 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.G., HAMBURG. Operation of shading flaps by means of a hand switch. Registered design 1 525 078/57c dated Aug 15, 1942. In German. 1.50

387-389 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.G., HAMBURG. Telescope-like system for observing the focusing of enlargers. Registered design 1 525 081/57a dated Sep 15, 1942. In German. 1.50

390-391 PB L 70413 KURMÄRKISCHE ZELLWOLLE UND ZELLULOSE AKT. GES., WITTENBERGE, BEZ. POTSDAM, and other rayon factories. Wall calendar for the textile trade, with new fabric patterns of the year. Registered design 1 525 110/54g dated Oct 15, 1942. In German. 1.50

392-394 PB L 70413 ZIMMERMANN, GEORG (Inventor). Plastic sole and heel for shoes. Registered design 1525 116/71a dated Jul 2, 1942. In German. 1.50

395-401 PB L 70413 ZEISS, CARL, JENA. Anastigmatic lens. Registered design 1 525 117/42h dated Jul 18, 1938. In German. 1.50

402-405 PB L 70413 ZEISS, CARL, JENA. Lens system consisting of two elements. Registered design 1 525 119/42h dated Nov 21, 1938. In German. 1.50

406-408 PB L 70413 KLANGFILM G.M.B.H., BERLIN. Device for setting the diaphragm of sound film apparatus. Registered design 1 525 129/42g dated Jan 5, 1940. In German. 1.50

409-411 PB L 70413 KODAK A.G., BERLIN. Frame for small film diapositives. Registered design 1 525 131/42h dated Jan 20, 1940. In German. 1.50

412-414 PB L 70413 KLANGFILM G.M.B.H., BERLIN. Closed sound film camera or projector. Registered design 1 525 132/42g dated Feb 10, 1940. In German. 1.50

415-417 PB L 70413 KAMERA-WERKSTÄTTEN CHARLES A. NOBLE, G.M.B.H., NIEDERSEDLITZ-DRESDEN. Projector with automatic picture change. Registered design 1 525 133/42h dated Mar 23, 1940. In German. 1.50

418-421 PB L 70413 ASKANIA-WERKE AKT./GES., BERLIN-FRIEDENAU. Optical installation for viewing with both eyes. Registered design 1 525 134/42h dated Apr 8, 1940. In German. 1.50

422-424 PB L 70413 I.A. KRAFT, MASCHINENFABRIK, OLPE/WESTF. Spinning can. Registered design 1 525 135/25c dated May 6, 1940. In German. 1.50

425-427 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Spherically, comatically, chromatically and anastigmatically corrected rapid four-element lens. Registered design 1 525 136/42h dated Sep 30, 1940. In German. 1.50

428-430 PB L 70413 MÜLLER, FRANZ, KOMMANDIT-GES., M.-GLADBACH, RHLD. Bobbin winder. Registered design 1 525 143/76c dated Dec 17, 1941. In German. 1.50

431-436 PB L 70413 ZEISS IKON A.G., DRESDEN. Daylight developing apparatus for plates and cut film. Registered design 1 525 156/57c dated May 23, 1942. In German. 1.50

437-441 PB L 70413 KLIKA, JOSEF (Inventor). Projector for diapositives. Registered design 1 525 159/42h dated Jul 17, 1942. In German. 1.50

442-443 PB L 70413 UMSTÄTTER, HERBERT (Inventor). Magnifying glass. Registered design 1 525 161/42h dated Aug 1, 1942. In German. 1.50

444-447 PB L 70413 PAPELKA, JUN., JOHANN (Inventor). Kaleidoscope. Registered design 1 525 163/42h dated Aug 14, 1942. In German. 1.50

448-450 PB L 70413 KLÖCKNER-HUMBOLDT-DEUTZ AKT. GES., KÖLN. Pressure meter. Registered design 1 525 168/42k dated Sep 11, 1942. In German. 1.50

451-452 PB L 70413 VEREINIGTE FOTOKOPIER APPARATE K.-G., BÖGER, HAMBURG. Cloth stretching device for automatic driers. Registered design 1 525 179/57c dated Oct 5, 1942. In German. 1.50

453-455 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.-G., BÖGER, HAMBURG. Fine focussing adjustment for cameras. Registered design 1 525 180/57 a dated Oct 5, 1942. In German. 1.50

456-459 PB L 70413 JIROUCH, AUGUSTIN (Inventor). Apparatus for refreshing or preserving films of all kinds. Registered design 1 525 265/57c dated Sep 26, 1942. In German. 1.50

460-461 PB L 70413 Body made from transparent material which is completely free of absorption. Registered design 1 525 278/75d dated Sep 10, 1941. In German. 1.50

462-463 PB L 70413 PINNECKE, AUGUST (Inventor). Target. Registered design 1 525 284/72c dated Apr 23, 1942. In German. 1.50

464-465 PB L 70413 HAACKE, HERMANN (Inventor). Profile jacket suited for large shells with a detonating charge, e.g., aerial and submarine torpedoes. Registered design 1 525 286/72d dated May 6, 1942. In German. 1.50

466-467 PB L 70413 KROELL, JOSEF (Inventor). Plastic cross-wound bobbin for ribbon manufacture. Registered design 1 525 296/86g dated Jul 22, 1942. In German. 1.50

468-470 PB L 70413 PAVLICEK, GOTTLIEB (Inventor). Flashlight case made of nonflexible material, especially plastics.

Registered design 1 525 331/21f dated Aug 27, 1942. In German. 1.50

471-476 PB L 70413 SCHMID, GEBR. (Inventors). Device for the production of reflex or contact copies in blue print machines and apparatus. Registered design 1 525 395/57c dated Jun 6, 1940. In German. 1.50

477-478 PB L 70413 HYKADE, FRIEDRICH (Inventor). Shoe lace made of Zellglas (substitute glass). Registered design 1 525 425/71b dated Jul 29, 1942. In German. 1.50

479-481 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.-G., BOGER, HAMBURG. Weather shade for reproduction devices. Registered design 1 525 433/57a dated Aug 29, 1942. In German. 1.50

482-484 PB L 70413 ZEISS IKON A.G., DRESDEN. Device for photographing brief electrical and mechanical processes with the aid of a cathode ray tube. Registered design 1 525 466/57a dated Oct 24, 1941. In German. 1.50

485-486 PB L 70413 TEBENAL-FOTOWERK, TRIEPEL, K.-G., BERLIN. Slide rail for the introduction of films into the developing tank. Registered design 1 525 518/57c dated Oct 21, 1942. In German. 1.50

487-492 PB L 70413 ZEISS, CARL, JENA. Reproduction apparatus for production of color selection from color film. Registered design 1 525 522/57a dated Dec 20, 1939. In German. 1.50

493-500 PB L 70413 KODAK A.G., BERLIN. Guiding device for fabrics, films, paper or the like. Registered design 1 525 523/8b dated May 8, 1942. In German. 1.50

501-504 PB L 70413 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Device for photographic measurements, especially for the examination of the transparency of layers. Registered design 1 525 568/57c dated Feb 16, 1942. In German. 1.50

505-508 PB L 70413 WEDEMEYER, KARL (Inventor). Portable enlarger for small film photographs. Registered design 1 525 585/57a dated Oct 2, 1942. In German. 1.50

509-511 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Light-proof casing for cut film and paper. Registered design 1 525 588/57c dated Oct 14, 1942. In German. 1.50

512-514 PB L 70413 THZULIKORN, OSKAR (Inventor). Pressure cloth for electrical blue printing and photographic printing apparatus as well as for electric dry presses. Registered design 1 525 592 dated Oct 20, 1942. In German. 1.50

515-516 PB L 70413 KOPF, LUDWIG (Inventor). Aerial barrage projectile. Registered design 1 525 615/72a dated Jan 22, 1942. In German. 1.50

517-521 PB L 70413 BORBAS, J.M. (Inventor). Device for folding artificial sausage casing. Registered design 1 525 629/66b dated May 30, 1942. In German. 1.50

522-523 PB L 70413 SCHNEIDER, CARL (Inventor). Stiffener for soft collars. Registered design 1 525 635/3a dated Jul 10, 1942. In German. 1.50

524-526 PB L 70413 KURMAERKISCHE ZELLWOLLE UND ZELLULOSE A.G., WITTENBERGE, BEZ. POTSDAM. and other textile factories. Device for cutting continuous slivers as well as fiber wastes and other long fibrous wastes. Registered design 1 525 707/76b dated Aug 26, 1942. In German. 1.50

527-529 PB L 70413 SIEMENS-REINIGER-WERKE A.G., BERLIN. Fluorescent screen especially for X-ray purposes. Registered design 1 525 740/20g dated Oct 31, 1941. In German. 1.50

530-532 PB L 70413 KOCH & STERZEL A.G., DRESDEN. Easily removable joint for connecting a square tube to other construction parts. Registered design 1 525 748/57a dated Mar 6, 1942. In German. 1.50

533-534 PB L 70413 KOERTING & MATHIESEN AKT.-GES., LEIPZIG-LEUTZSCH. Surface lighting unit for film illumination purposes with an electric arc lamp as ray source. Registered design 1 525 753/57a dated Mar 23, 1942. In German. 1.50

535-537 PB L 70413 KOERTING & MATHIESEN A.G., LEIPZIG-LEUTSCH. Plane illuminating device for film illuminating purposes with electric arc lamp as the light source. Registered design 1 525 754/57a dated Mar 23, 1942. In German. 1.50

538-541 PB L 70413 ASKANIA-WERKE A.G., BERLIN-FRIEDENAU. Movie camera. Registered design 1 525 756/57a dated Apr 4, 1942. In German. 1.50

542-545 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Film container made of polyamides. Registered design 1 525 772/57a dated Mar 18, 1942. In German. 1.50

546-547 PB L 70413 LAND- UND SEEKABELWERKE A.G., KOELN-NIPPES. Flexible rubber hose. Registered design 1 525 833/21c dated Apr 22, 1942. In German. 1.50

548 PB L 70413 IRION, HANS (Inventor). Cable work tags and markers made of a chemically and mechanically stable material of any color desired. Registered design 1 525 837/21c dated May 15, 1942. In German. 1.50

549-551 PB L 70413 ZEISS IKON A.G., DRESDEN. Roll film camera. Registered design 1 525 856/57a dated Feb 20, 1939. In German. 1.50

552-556 PB L 70413 ZEISS IKON A.G., DRESDEN. Roll film camera with built-in photoelectric exposure meter. Registered design 1 525 865/57a dated Oct 17, 1940. In German. 1.50

557 PB L 70413 DEUTSCHE ACETAT-KUNSTSEIDEN A.G., "RHODIASETA", FREIBURG I.BR. Fabrics resistant to humid weather. Registered design 1 525 886/76c dated Aug 27, 1942. In German. 1.50

558-560 PB L 70413 ALLGEMEINE ELECTRIZITAETSGESELLSCHAFT, BERLIN. Electron-optical screen. Registered design 1 525 852/21g dated Oct 28, 1936. In German. 1.50

561-565 PB L 70413 ZEISS IKON A.G., DRESDEN. Movie camera, having a device

to indicate the end of the film. Registered design 1 525 862/57a dated Jul 27, 1940. In German. 1.50

566-569 PB L 70413 TELEFUNKEN GESELLSCHAFT FUER DRAHTLOSE TELEGRAFIE M.B.H., BERLIN-ZEHLENDORF. Machine for the production of electron tubes. Registered design 1 525 867/21g dated Jan 31, 1941. In German. 1.50

570-572 PB L 70413 KURMAERKISCHE ZELLWOLLE UND ZELLULOSE A.G., WITTENBERGE BEZ. POTSDAM UND ANDERS KUNSTSEIDENFABRIKEN. Thread guide for "Flyer" machines. Registered design 1 525 916/76c dated Oct 30, 1942. In German. 1.50

573-577 PB L 70413 DEBRIC, ANDRE LEON VICTOR CLEMENT (Inventor). Device for joining films of similar strips. Registered design 1 525 917/57a dated Oct 31, 1942. In German. 1.50

578-580 PB L 70413 SCHRADER, GOETZ (Inventor). Case for cameras. Registered design 1 525 925/57a dated Jul 15, 1939. In German. 1.50

581-583 PB L 70413 TURBINENFABRIK BRUECKNER, KANIS & CO., DRESDEN. Packing for cog wheel pumps. Registered design 1 525 938/59e dated Apr 15, 1942. In German. 1.50

584-586 PB L 70413 REUKER-BELIPA G.M.B.H., LENDERSDORF-KRAUTHAUSEN. Developing apparatus for blueprints. Registered design 1 525 943/57c dated Sep 3, 1942. In German. 1.50

587-588 PB L 70413 NAUCK, WILLY (Inventor). Elastic transporting device for ribbons and/or strips. Registered design 1 525 965/57a dated Oct 29, 1942. In German. 1.50

589-593 PB L 70413 KALLE & CO., AKT.-GES., WIESBADEN-BIEBRICH. Blue printing apparatus. Registered design 1 525 971/57c dated Jun 15, 1940. In German. 1.50

594-597 PB L 70413 WEDELSTAEDT, LOTHAR VON (Inventor). Propelling device for projectiles. Registered design 1 525 976/72h dated Feb 23, 1942. In German. 1.50

598-601 PB L 70413 LICHTKOPIE APPARATE K.G., E. M. TIMMLER & CO., BERLIN. Blue printing apparatus with a device for exposure determination, especially for large sizes. Registered design 1 526 002/57c dated Oct 7, 1942. In German. 1.50

602-603 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Developing apparatus. Registered design 1 526 003/47c dated Oct 7, 1942. In German. 1.50

604-605 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Enlarging attachment for reproduction apparatus. Registered design 1 526 004/57a dated Oct 7, 1942. In German. 1.50

606-607 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Diffusing pane for reproduction apparatus. Registered design 1 526 005/57a dated Oct 7, 1942. In German. 1.50

608-609 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Device for the lighting of originals on extension holders. Registered design 1 526 006/57a dated Oct 12, 1942. In German. 1.50

610-611 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Contact printer. Registered design 1 526 008/57c dated Oct 19, 1942. In German. 1.50

612-613 PB L 70413 MOELLER, WALTER (Inventor). Apparatus for pressing false teeth free of blisters from synthetic resins. Registered design 1 526 009/30b dated Oct 23, 1942. In German. 1.50

614-618 PB L 70413 FOTOKOPIST G.M.B.H., BERLIN. Lid for can-like containers, especially for round roll film cartridges. Registered design 1 526 029/57a dated Aug 17, 1940. In German. 1.50

619-621 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Folding table for movie apparatus. Registered design 1 526 035/57a dated Aug 16, 1941. In German. 1.50

622-624 PB L 70413 BAUER, EUGEN G.M.B.H., STUTTGART-UNTERTUERKHEIM. Film spool container for portable installations. Registered design 1 526 037/57a dated Sep 3, 1941. In German. 1.50

625-626 PB L 70413 WUNSCH, ERHARD (Inventor). Feltlike material. Registered design 1 526 050/41d dated Aug 24, 1942. In German. 1.50

627-629 PB L 70413 BUSCH, EMIL, AKT. GES., OPTISCHE INDUSTRIE, RATHENOW A. H. Mechanical pencil with a magnifying glass in the housing, used for advertising purposes. Registered design 1 526 063/54h dated Jul 12, 1940. In German. 1.50

630-632 PB L 70413 LORENZ, C., A.G., BERLIN-TEMPELHOF. Hinged play-back head for steel phonograph projectors. Registered design 1 526 075/42g dated Aug 19, 1941. In German. 1.50

633-635 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Portable movie outfit. Registered design 1 526 076/57a dated Aug 25, 1941. In German. 1.50

636-638 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Metal case for projectors. Registered design 1 526 077/57a dated Aug 25, 1941. In German. 1.50

639-642 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Projector with built-in auxiliary lamp. Registered design 1 526 078/57a dated Sep 30, 1941. In German. 1.50

643-645 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTUERKHEIM. Small film projector. Registered design 1 526 079/57a dated Sep 30, 1941. In German. 1.50

646-650 PB L 70413 ZEISS IKON A.G., DRESDEN. Camera with interchangeable lenses based on patent 672 887. Registered

design 1 526 084/57a dated Nov 3, 1941. In German. 1.50

651-655 PB L 70413 ZEISS-IKON A.G., DRESDEN. Stereo-picture holder. Registered design 1 526 091/42h dated Mar 9, 1942. In German. 1.50

656-657 PB L 70413 RING, H., & CO., INH. FR. JESSEL HOLZ- UND SPIELWARENFABRIK, BRIEX BEZ. BRESLAU. Photo stand consisting of two parts. Registered design 1 526 101/34f dated Aug 15, 1942. In German. 1.50

658-661 PB L 70413 ZEISS IKON A.G., DRESDEN. Stereo-picture holder. Registered design 1 526 128/42h dated Oct 4, 1941. In German. 1.50

662-663 PB L 70413 HITZLER, ARTHUR (Inventor). Process for making cellulose wicks resistant by applying a fabric or braiding. Registered design 1 526 133/4a dated Sep 19, 1942. In German. 1.50

664-666 PB L 70413 SIEMENS-REINIGER-WERKE A.G., BERLIN. Furnace for polymerizing plastics. Registered design 1 526 166/39a dated Dec 19, 1941. In German. 1.50

667-669 PB L 70413 DEUTSCHE CELLULOSE FABRIK A.G., EILENBURG. Separators for batteries. Registered design 1 526 177/21b dated Jun 1, 1942. In German. 1.5

670-673 PB L 70413 PHOTO-COPIE G.M.B.H., BERLIN. Device for photographic reproduction apparatus. Registered design 1 526 210/57a dated Nov 7, 1942. In German. 1.50

674-678 PB L 70413 KODAK A.G., BERLIN. Film transmission in movie apparatus. Registered design 1 526 218/57a dated Mar 3, 1939. In German. 1.50

679-680 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Device for predrying of photographs. Registered design 1 526 254/57c dated Oct 9, 1942. In German. 1.50

681-683 PB L 70413 VEREINIGTE PHOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Developing device. Registered design 1 526 255/57c dated Sep 9, 1942. In German. 1.50

684-686 PB L 70413 KLUFTINGER, HERMANN (Inventor). Belt drawing frame. Registered design 1 526 264/78c, n.d. In German. 1.50

687-688 PB L 70413 KIRCHHOFF, PAUL, SUCCESSORS TO, WERDAU. Flat iron bar grate for textile preparing machines and similar apparatus. Registered design 1 526 270/76b dated Nov 6, 1942. In German. 1.50

689-690 PB L 70413 HUERNER, ERNST (Inventor). Thermoplastic stop cock. Registered design 1 526 302/47g dated Aug 1942. In German. 1.50

691-692 PB L 70413 HUERNER, ERNST (Inventor). Thermoplastic exhaust or traversing valve. Registered design 1 526 304/47g dated Jul 23, 1942. In German. 1.50

693-694 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANK-FURT/MAIN. Viscose sponge in cardboard form. Registered design 1 526 329/34k dated Nov 7, 1942. In German. 1.50

695-696 PB L 70413 CZASKI, REINHARD and BERTRAM, KURT (Inventors). Case for diapositive viewers. Registered design 1 526 359/42h dated Nov 14, 1941. In German. 1.50

697-700 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANK-FURT/MAIN. Upright projector with built-in or built-on magnetograph. Registered design 1 526 361/57a dated Mar 18, 1942. In German. 1.50

701-703 PB L 70413 EBERSPAECHTER, J. (Inventor). Plastic slit covering band for glass roofs. Registered design 1 526 392/37c dated Apr 21, 1941. In German. 1.50

704-706 PB L 70413 ZEISS IKON A.G., DRESDEN. Movie camera. Registered design 1 526 411/57a dated Nov 28, 1941. In German. 1.50

707-709 PB L 70413 KRAUSE, RICHARD (Inventor). Grinding wheel. Registered design 1 526 461/39b dated Mar 7, 1938. In German. 1.50

710-714 PB L 70413 ZEISS IKON A.G., DRESDEN. Device to increase the picture frequency of movie cameras with optical compensation. Registered design 1 526 462/57a dated May 9, 1940. In German. 1.50

715-718 PB L 70413 TOBIS-TONBILD-SYNDIKAT A.G., BERLIN. Automatic dynamic regulation during the projection of photographic sound recordings. Registered design 1 526 466/42g dated Mar 24, 1941. In German. 1.50

719-721 PB L 70413 HAGEN, GOTTFRIED, A.G., KÖLN-KALK. Device for welding plastic parts. Registered design 1 526 472/39a dated Feb 23, 1942. In German. 1.50

722-725 PB L 70413 ATLAS-WERKE A.G., BREMEN. Clear view window. Registered design 1 526 482/63c dated Jun 6, 1942. In German. 1.50

726-731 PB L 70413 TEXTAR WERK BAUERNFEIND & CO., UND GERHARD SCHURMANN, LEVERKUSEN, SCHLEBUSCH. Pre-pressed friction lining for brake or coupling purposes. Registered design 1 526 486/39a dated Jun 29, 1942. In German. 1.50

732-734 PB L 70413 FUESS, F. and others (Inventors). Device for the determination of the relative humidity from the indications given by a dry and a wet bulb thermometer. Registered design 1 526 502/42i dated Nov 14, 1942. In German. 1.50

735-738 PB L 70413 MAHR, CARL (Inventor). Device for limiting the scale range of a meter. Registered design 1 526 521/42b dated Jan 25, 1941. In German. 1.50

739-742 PB L 70413 BINDLER, GEBR. (Inventors). Device to form a continuous ribbon. Registered design 1 526 567/29a dated Oct 7, 1942. In German. 1.50

743-746 PB L 70413 LEITZ, ERNST, G.M.B.H., WETZLAR. Film guide for movie projectors. Registered design 1 526 613/57a dated Nov 8, 1940. In German. 1.50

747-749 PB L 70413 KURMÄRKISCHE ZELLWOLLE UND ZELLULOSE WITTENBERG BEZ. POTSDAM and other rayon staple factories. Device to loosen continuous artificial fiber ribbons. Registered design 1 526 614/29a dated Dec 14, 1940. In German. 1.50

750-753 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT A.M. Projector with a built-in or built-on magnetograph. Registered design 1 526 620/57a dated Mar 18, 1942. In German. 1.50

754-757 PB L 70413 ZEISS, CARL, JENA. Device for spectroscopic apparatus with a camera photographing the spectrum. Registered design 1 526 663/42h dated Dec 11, 1939. In German. 1.50

758-759 PB L 70413 ZEISS-IKON A.G., DRESDEN. View finder for movie cameras. Registered design 1 526 727/57a dated Jan 13, 1941. In German. 1.50

760-761 PB L 70413 HACKETHAL-DRAHT- UND KABELWERKE A.G., HANNOVER. Device for marking hoses, threads, or insulated lines on the basis of polyvinyl chloride or co-polymers of vinyl chloride. Registered design 1 526 733/39a dated Sep 22, 1941. In German. 1.50

762-763 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.G., BOLOGER, HAMBURG. Camera for reproduction apparatus. Registered design 1 526 739/57a dated Jun 30, 1942. In German. 1.50

764-766 PB L 70413 LEITZ, ERNST (Inventor). Lightening device with a reflector. Registered design 1 526 752/42h dated Jun 23, 1938. In German. 1.50

767-769 PB L 70413 SENDLINGER OPTISCHE GLASWERKE G.M.B.H., BERLIN-ZEHLENDORF. Graduated lens system. Registered design 1 526 760/42h dated Dec 22, 1941. In German. 1.50

770-771 PB L 70413 HEROLD, PAUL (Inventor). Flexible ring membered protection for hoses, cables, bars or hands, made of thermoplastic material. Registered design 1 526 801/47f dated Sep 17, 1942. In German. 1.50

772-773 PB L 70413 MAHR, CARL (Inventor). Plastic handle for measuring instruments, for instance for gauges. Registered design 1 526 805/42h dated Oct 9, 1942. In German. 1.50

774-776 PB L 70413 BUSCHEK, ADALBERT (Inventor). Film support, especially for enlarging apparatus. Registered design 1 526 850/57a dated Nov 27, 1942. In German. 1.50

777-779 PB L 70413 ZEISS IKON A.G., DRESDEN. Movie projector for color films. Registered design 1 526 860/57a. dated Jul 22, 1941. In German. 1.50

780-784 PB L 70413 ZEISS IKON A. G., DRESDEN. Camera, especially aerial camera, operated by hand or by a motor. Registered design 1 526 864/57a dated Aug 19, 1941. In German. 1.50

785-787 PB L 70413 FOTOKOPIST G.M.B.H., BERLIN. Light proof connection at photographic cameras for cassettes. Registered design 1 526 873/57a dated Feb 13, 1942. In German. 1.50

788-791 PB L 70413 CZAPSKI, REINHARDT and BERTRAMS, KURT (Inventors). Viewer for color film diapositives. Registered design 1 526 927/42h dated Nov 14, 1941. In German. 1.50

792-794 PB L 70413 CZAPSKI, REINHARDT and BERTRAM, KURT (Inventors). Viewer for color film diapositives. Registered design 1 526 928/42h dated Nov 14, 1941. In German. 1.50

795-799 PB L 70413 GIEBEL, JOSEF (Inventor). Box-like projection apparatus. Registered design 1 526 957/57a dated Oct 22, 1942. In German. 1.50

800-801 PB L 70413 DENNERT & PAPE, FABRIK MATHEMATISCHER UND GEODÄTISCHER INSTRUMENTE, HAMBURG-ALTONA. Arithmetic disc of Plexiglas. Registered design 1 526 962/42m dated Oct 30, 1942. In German. 1.50

802-805 PB L 70413 GOEBEL, GERHART (Inventor). Lens shade to be used universally for cameras. Registered design 1 527 028/57a dated Oct 10, 1941. In German. 1.50

806-808 PB L 70413 SUSNIK, GREGOR (Inventor). Electromagnetic auxiliary shutter mechanism for film projectors. Registered design 1 527 029/42h dated Mar 21, 1942. In German. 1.50

809-813 PB L 70413 LICHTKOPIE-APPARATE K.G., E.M. TIMMLER & CO., BERLIN. Copying apparatus for large sizes. Registered design 1 527 033/57e dated Oct 6, 1942. In German. 1.50

814-818 PB L 70413 WIEMER, KURT and others (Inventors). Projection arrangement for plastic films. Registered design 1 527 052/42h dated Mar 28, 1938. In German. 1.50

819-822 PB L 70413 ASKANIA-WERKE A.G., BERLIN-FRIEDENAU. Film feeding device. Registered design 1 527 057/57a dated Aug 15, 1940. In German. 1.50

823-825 PB L 70413 BAUER, EUGEN, G.M.B.H., STUTTGART-UNTERTÜRKHEIM. Movie apparatus. Registered design 1 527 059/57a dated Sep 23, 1940. In German. 1.50

826-828 PB L 70413 BOSCH, ROBERT, G.M.B.H., STUTTGART. Projector for 8 mm or 16 mm films. Registered design 1 527 059/57a dated Oct 30, 1940. In German. 1.50

829-836 PB L 70413 ZEISS IKON A.G., DRESDEN. Shutter release for clockwork operated cameras. Registered design 1 527 063/57a dated Dec 10, 1941. In German. 1.50

837-840 PB L 70413 FELTEN & GUILLEAUME CARLSWERK A.G., KÖLN-MÜHLHEIM. Device for measuring small shape changes of machine and construction parts. Registered design 1 527 107/42b dated Sep 16, 1942. In German. 1.50

841-843 PB L 70413 BLASBERG, FRIEDRICH, ELEKTROCHEM. FABRIK SOLINGEN-MERSCHEID. Containers with plastic lining. Registered design 1 527 113/48a dated Nov 26, 1942. In German. 1.50

844-848 PB L 70413 BUEHLER, GEBRÜDER, G.M.B.H., FREITAL-DRESDEN. Device for automatic indication of the filling level in bins or similar containers. Registered design 1 527 163/42e dated Oct 24, 1942. In German. 1.50

849-852 PB L 70413 I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN. Revolver view finder for still or movie cameras. Registered design I 527 170/42h dated Nov 21, 1941. In German. 1.50

853-855 PB L 70413 ZERBSTER ZELLULOIDWARENFABRIK G.M.B.H., ZERBST/ANHALT. Ear protectors. Registered design I 527 193/3b dated Nov 26, 1942. In German. 1.50

856-858 PB L 70413 SPICKERMANN, EMIL (Inventor). Artificial limbs of thermoplastic material. Registered design I 527 240/30d dated Nov 4, 1942. In German. 1.50

859-860 PB L 70413 GRONAUER & RIVI O.H., BERLIN-BRITZ. Insulating plates. Registered design I 527 270/37b dated Aug 4, 1942. In German. 1.50

861-862 PB L 70413 KEFFEL, EDUARD, A.G., LEIPZIG. Impregnated fabric length, arranged in one or more layers. Registered design I 527 322/8k dated Aug 27, 1942. In German. 1.50

863-865 PB L 70413 JANKE, HANS J. (Inventor). Sound-proof cabinet, especially telephone booth. Registered design I 527 324/37f dated Sep 29, 1942. In German. 1.50

866-867 PB L 70413 HEISIG, ALFRED (Inventor). Roll film without spool. Registered design I 527 329/57b dated Oct 12, 1942. In German. 1.50

868-871 PB L 70413 BERGEDORFER EISENWERKE A.G., ASTRA-WERKE, HAMBURG-BERGEDORF. High pressure float regulation for refrigeration plants. Registered design I 527 344/17a dated Sep 18, 1941. In German. 1.50

872-874 PB L 70413 JUTTEN, LEONHARD (Inventor). Washable embossing foil. Registered design I 527 348/57d dated Mar 20, 1942. In German. 1.50

875-876 PB L 70413 PARR, FRANZ (Inventor). Copying cliche for photographs. Registered design I 527 356/57d dated Oct 16, 1942. In German. 1.50

877-878 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Device for the production of non-reversed images. Registered design I 527 367/57d dated Oct 19, 1941. In German. 1.50

879-880 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.G., BOEGER K.G., HAMBURG. Fastening device for reflectors adjustable in height on the reproduction apparatus. Registered design I 527 368/57d dated Oct 21, 1942. In German. 1.50

881-884 PB L 70413 FOTO-INDUSTRIE MAFI, FREUDENSTADT/SCHWARZWALD. Copying apparatus for copying color-sensitive layer carriers. Registered design I 527 373/57b dated Nov 23, 1942. In German. 1.50

885-889 PB L 70413 SONST, WALTER (Inventor). Trailer for a mobile photographic laboratory. Registered design I 527 392/57c dated Apr 24, 1942. In German. 1.50

890-892 PB L 70413 SIEBERT & KUHN (Inventors). Psychrometer. Registered design I 527 402/42i dated Aug 24, 1938. In German. 1.50

893-894 PB L 70413 VEREINIGTE FOTOKOPIER-APPARATE K.G., BOEGER, HAMBURG. Blue print developing apparatus. Registered design I 527 409/57c dated Jun 20, 1942. In German. 1.50

895-899 PB L 70413 HEILINGOETTER, RICHARD (Inventor). Electrically operated contact printer. Registered design I 527 414/57c dated Oct 16, 1942. In German. 1.50

900-902 PB L 70413 PERQUIN, JACOBUS JOHANNES (Inventor). Seal or plug made of moldable material. Registered design I 527 434/81c dated Dec 7, 1942. In German. 1.50

903-905 PB L 70413 LUMOPHON-WERKE BRUCKNER & STARK, NÜRNBERG O. File for storing negatives. Registered design I 527 437/57c dated Dec 10, 1942. In German. 1.50

906-908 PB L 70413 BOSCH, ROBERT, G.M.B.H., STUTTGART. Still or movie camera with a photo-electric exposure meter. Registered design I 527 456/57a dated Apr 12, 1941. In German. 1.50

909-910 PB L 70413 SENDLINGER OPTISCHE GLASWERKE G.M.B.H., BERLIN-ZEHLENDORF. Reading glasses. Registered design I 527 454/42h dated Dec 8, 1941. In German. 1.50

911-913 PB L 70413 [illegible] (Inventor). Seal or plug of moldable material. Registered design I 527 493/81c dated Dec 7, 1942. In German. 1.50

914-917 PB L 70413 SCHMECK, PAUL (Inventor). Container for developing blue prints. Registered design I 527 497/57c dated Dec 9, 1942. In German. 1.50

918-919 PB L 70413 KODAK A.G., BERLIN. Camera with photoelectric exposure meter. Registered design I 527 504/57a dated Nov 5, 1928. In German. 1.50

920-922 PB L 70413 KOCH & STERZEL A.G., DRESDEN. Collapsable and folding X-ray apparatus. Registered design I 527 518/30d dated Mar 7, 1942. In German. 1.50

923-925 PB L 70413 KOCH & STERZEL A.G., DRESDEN. X-ray apparatus with a high tension protective hood pivoting in a fork. Registered design I 527 519/30a dated Mar 7, 1942. In German. 1.50

926-928 PB L 70413 KOCH & STERZEL A.G., DRESDEN. X-ray apparatus with an X-ray radiator bearing the fluorescent screen. Registered design I 527 520/30a dated Mar 7, 1942. In German. 1.50

929-932 PB L 70413 KOCH & STERZEL A.G., DRESDEN. X-ray apparatus with a hood for the tubes, adjustably arranged and protected against high tension. Registered design I 527 521/30a dated Mar 7, 1942. In German. 1.50

933-935 PB L 70413 HAFTA KUNSTSTOFF-GESELLSCHAFT, HULBNER & CO. K.G., BERLIN. Plastic tube consisting of two parts. Registered design I 527 523/81c dated Mar 26, 1942. In German. 1.50

TECHNICAL ORDERS

ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

Communication Equipment

PB L 79148. U. S. ARMY AIR FORCES. Handbook of instructions operation and maintenance: Radio set SCR-274-N. (Tech Order 16-10-50). Oct 1945. 275 p. Price: Microfilm-$6.00 - Photostat-$19.00
This handbook contains, in addition to maintenance and operating instructions for the multichannel aircraft receiving and transmitting Radio Set SCR-274-N, a complete description, explanation of the functions of its several parts, parts lists, wiring and circuit diagrams and photographs.

TRANSPORTATION EQUIPMENT

AERONAUTICS

Aircraft

PB L 31241. U. S. ARMY AIR FORCES. Airplane parts catalog for Army model BT-13B, Navy model SNV-2. Revised. (Tech Order 01-50BD-4) Sep 1944. 565 p. Price: Microfilm-$11.00 - Photostat-$38.00

PB L 31244. U. S. ARMY AIR FORCES. Handbook of overhaul instructions for the models PT-13B, PT-17 and PT-18 primary training airplanes. (Manufactured by Stearman Aircraft Div. of Boeing Airplane Co., Wichita, Kans.) (Tech Order 01-70AB-3) Apr 1940. 30 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80423. U. S. ARMY AIR FORCES. Installation of engraved switch guards for generator, landing gear retraction, and bail out signal switch-C-82A. (Fairchild). (Tech Order 01-115CBA-27). May 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80424. U. S. ARMY AIR FORCES. List of applicable publications AT-6D aircraft and equipment. (Tech Order 01-60FF-01). Mar 1947. 66 p. Price: Microfilm-$2.00 - Photostat-$5.00

PB L 80425. U. S. ARMY AIR FORCES. List of applicable publications AT-7 aircraft and equipment. (Tech Order 01-90KA-01). Mar 1947. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00

PB L 80432. U. S. ARMY AIR FORCES. Modification of pilot's instrument panel-B-29 series and P-13 series. (Boeing). (Tech Order 01-20EJA-91). Apr 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 31239. U. S. ARMY AIR FORCES. Overhaul instructions for Army models BT-13A and BT-15, Navy model SNV-1. Revised. (Tech Order 01-50BB-3) Sep 1944. 111 p. Price: Microfilm-$3.00 - Photostat-$8.00

PB L 31243. U. S. ARMY AIR FORCES. Parts catalog for the models PT-13B, PT-17 and PT-18 primary training airplanes (Manufactured by Stearman Aircraft Div. of Boeing Airplane Co., Wichita, Kans.) (Tech Order 01-70AB-4) Oct 1941. 175 p. Price: Microfilm-$4.00 - Photostat-$12.00

PB L 31238. U. S. ARMY AIR FORCES. Service instructions for Army models BT-13A and BT-15, Navy model SNV-1. Revised. (Tech Order 01-50BB-2) Sep 1944. 304 p. Price: Microfilm-$7.00 - Photostat-$21.00

PB L 31242. U. S. ARMY AIR FORCES. Structural repair instructions for Army model AT-6 series, Navy model SNJ series, British models Harvard IIA and III airplanes. (Tech Order 01-60F-3) May 1945. 117 p. Price: Microfilm-$3.00 - Photostat-$8.00

PB L 31240. U. S. ARMY AIR FORCES. Structural repair instructions for Army model BT-13B-VU, Navy model SNV-2, airplanes. (Tech Order 01-50BD-3) May 1944. 200 p. Price: Microfilm-$4.00 - Photostat-$14.00

Engines and Propellers

PB L 80434. U. S. ARMY AIR FORCES. General: Ground operation instructions for aircraft engines. (Tech Order 01-15F-38). Apr 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This T. O. is intended as a guide for the inspection and replacement of the upper shock mount support bracket of Modulator Unit BC-1142-A, with part number 47D 2779 which is an improved design. This modulator is part of radio set SCR-720-( ), installed in P-61 series aircraft.

PB L 80422. U. S. ARMY AIR FORCES. Modification of Airesearch heat exchangers and Pollak exhaust collector assemblies - C-82A. (Fairchild). (Tech Order 01-115CBA-22). May 1947. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

Engines and Propellers (contd)

PB L 31170. U. S. ARMY AIR FORCES. Overhaul instructions: V-1650-1, -7 and Merlin 68 and 69 aircraft engines. Revised Mar 1, Jul 15, 1945. (Manufactured by Packard Motor Car Co., Detroit) (Tech Order 02-55AC-3) Nov 1944. 682 p. Price: Microfilm-$18.00 - Photostat-$49.00

PB L 31174. U. S. ARMY AIR FORCES. Overhaul instructions for aircraft engines, model V-1650-9. (Manufactured by Packard Motor Car Co., Detroit.) (Tech Order 02-55AD-3) Jul 1945. 332 p. Price: Microfilm-$7.00 - Photostat-$23.00
Superseded by PB 31174-R.

PB L 31176. U. S. ARMY AIR FORCES. Packard-adjusting the 64-9 Simmonds boost for use of fuel, specification No. AN-F-23 or AN-F-28 - V-1650-9. (Tech Order 02-55AD-10) Nov 1945. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 31168. U. S. ARMY AIR FORCES. Packard, model V-1650 series (1-20, 6-6). (Tech Order 02-55A-9-10; 02-55A-16-17; 02-55A-19; 02-55A-21) Nov 1945. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 31172. U. S. ARMY AIR FORCES. Packard, models V-1650-3, -7, Merlin 68, 69 (1-20, 6-9). (Tech Order 02-55AC 8-10; 02-55AC 12-13; 02-55AC 16-17; 02-55AC 19-19A; 02-55AC 25-33; 02-55AC 35; 02-55AC 37-40; 02-55AC-43-46; 02-55AC-48) Jan 1946. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00
For parts 2, 3 and 4 of this series see PB 31169-PB 31171.

PB L 31171. U. S. ARMY AIR FORCES. Parts catalog for aircraft engines, models V-1650-3, -7, -13 and -17 and Merlin 68 and 69. (Manufactured by Aircraft Engine Div. of the Packard Motor Car Co., Detroit.) (Tech Order 02-55AC-4) Dec 1944. 266 p. Price: Microfilm-$6.00 - Photostat-$18.00

PB L 31175. U. S. ARMY AIR FORCES. Parts catalog for aircraft engines, models V-1650-9, -9A, -11 and -21 and Merlin 300 and 301. (Manufactured by Aircraft Engine Div. of the Packard Motor Car Co., Detroit.) (Tech Order 02-55AD-4) Jun 1945. 188 p. Price: Microfilm-$4.00 - Photostat-$13.00

PB L 80414. U. S. ARMY AIR FORCES. Service instructions for aircraft engine, model O-335-1. (Manufactured by Aircooled Motors Corp., Syracuse, N. Y.). (Tech Order AN 02-70DA-2). Mar 1947. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 31173. U. S. ARMY AIR FORCES. Service instructions for model V-1650-9 aircraft engines. (Manufactured by Packard Motor Car Co., Detroit.) (Tech Order 02-55AD-2) Jun 1945. 118 p. Price: Microfilm-$3.00 - Photostat-$8.00

PB L 80413. U. S. ARMY AIR FORCES. Service instructions for models V-1710-143 and -145 aircraft engines. (Manufactured by Allison Division of General Motors Corp., Indianapolis, Ind.). (Tech Order An 02-5AH-2). Apr 1947. 95 p. Price: Microfilm-$2.00 - Photostat-$7.00

PB L 31169. U. S. ARMY AIR FORCES. Service instructions for V-1650-3,-7 and Merlin 68 and 69 aircraft engines. Revised May 5, Jun 15, Aug 1, 1945. (Manufactured by Packard Motor Car Co., Detroit.) (Tech Order 02-55AC-2) May 1944. 173 p. Price: Microfilm-$4.00 - Photostat-$12.00

PB L 36390. U. S. ARMY AIR FORCES. Test equipment - Modification of 202 FM propeller governer test stands to obtain more accurate input pressure readings; polarity correction of propeller governer test-stand model 202 FM, Aircraft Accessories Corporation. (Tech Order 05-95A-18; 05-95A-19). Aug 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

MISCELLANEOUS

PB L 80429. U. S. ARMY AIR FORCES. Kit: Machinist, test, dynamics, aircraft laboratory. (Tech Order 00-30-983). Feb 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80418. U. S. ARMY AIR FORCES. Kit: Mechanic, aircraft, flight test. (Tech Order 00-30-1037). Feb 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80420. U. S. ARMY AIR FORCES. Kit: Mechanic, instrument, electrical and electronic, flight test. (Tech Order 00-30-1070). Feb 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80419. U. S. ARMY AIR FORCES. Kit: Mechanic, instrument, flight test aircraft. (Tech Order 00-30-1038). Feb 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80421. U. S. ARMY AIR FORCES. Set: Fabrication and modification, equipment, aerial photography electronics, photographic laboratory. (Tech Order 00-30-1072). Feb 1947. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80433. U. S. ARMY AIR FORCES. Set: Measurement, noise and field strength, devices, airborne communications. (Tech Order 00-30-764). Feb 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80415. U. S. ARMY AIR FORCES. Set: Measuring, flight load, aircraft laboratory. (Tech Order 00-30-993). Feb 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE

Information on the following patents can be obtained from the U. S. Patent Office, Washington 25, D. C.

The "Groups" appearing after the patent abstracts are based on the Standard Industrial Classification Manual, Vol. 1, Manufacturing Industries, Executive Office of the President, Bureau of the Budget.

PAT. 1,947,919. Carburetor. Patented Feb. 20, 1934.
The normal fuel supply of this pressure-feed type carburetor is temporarily augmented when the throttle is suddenly opened to further aid acceleration of the engine. This additional supply is regulated by a thermostatically operated valve in accordance with the temperature of the carburetor so that as the temperature increases the acceleration fuel supply decreases and vice versa. An additional supply of compressed air is simultaneously furnished to the mixing chamber with the fuel. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,874.

PAT. 1,950,266. Carburetor. Patented Mar. 6, 1934.
The construction of this carburetor is somewhat similar to that shown in Patent 2,013,734 (Reg. No. 8,882). To obtain closer control of the fuel feed, especially at low speeds when the vacuum in the mixing chamber is at or near minimum, the head on the fuel is slightly varied to raise the top of the fuel column in the atomizing nozzle to bring it directly into the path of the escaping compressed air. Thus, fuel discharged by force of escaping compressed air does not depend entirely upon suction to maintain its flow. The level of the fuel column in the nozzle is controlled by the throttle, rising as the throttle is opened and falling when the throttle is closed. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,875.

PAT. 1,967,423. Carburetor. Patented July 24, 1934.
Additional fuel for acceleration is regulated in accordance with the temperature of this carburetor. The structure includes a supplementary air supply to maintain the fuel-air mixture at any predetermined ratio. A chamber of the supplementary air supply cylinder is connected by pipeline to a fuel tube and with the carburetor fuel reservoir by an exhaust port and an adjustable intake valve. An intake port is normally closed by a sleeve valve and opened only when the sleeve valve is at its lowermost position. Communication between the supplementary air supply cylinder and the reservoir is regulated by a thermostatically actuated valve attached to the fuel tube. The thermostat is calibrated to raise the valve for each degree fall in temperature of the carburetor. Thus the valve is fully open only at the lowest working temperature of the carburetor. As the temperature rises, the valve gradually restricts the passageway of the pipe line so that it is completely closed at the highest operating temperature of the carburetor. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,876.

PAT. 1,974,585. Carburetor. Patented Sept. 25, 1934.
Fuel and air under substantially constant superatmospheric pressure are fed to the mixing chamber through one or more nozzles so that the fuel is thoroughly atomized regardless of the variation in specific gravity. This additional air supply compensates for overenrichment of the mixture due to the usual difference between the fuel and air flows when caused by a common head. The supplementary air supply is controlled by a vacuum operated valve adapted to vary the amount of compressed air admitted to the mixing chamber in direct proportion to the fuel admitted during the same period of time. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,877.

PAT. 1,984,382. Carburetor. Patented Dec. 18, 1934.
By means of a self-regulating, constant-pressure type pump geared to the engine, air is fed to the mixing chamber of this carburetor under a variable, controlled, superatmospheric pressure to insure substantially perfect compensation of the fuel-air mixture. The composition of the mixture is regulated and maintained at any desired quality to secure a supercharging effect as well as an improved engine performance under slow speeds and quick acceleration. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,878.

PAT. 1,999,517. Carburetor. Patented Apr. 30, 1935.
The main air supply of this carburetor is controlled by an attachment to the piston stem of an auxiliary compressed air chamber to aid starting, acceleration, and operation at slow speed especially under heavy loads. This attachment has a reduced section, connected to the bottom of the stem, which passes through an air-tight stuffing box in the bottom wall of the auxiliary chamber and is linked to a butterfly valve pivoted to the main air intake. As the piston stem is moved up and down in response to changes in vacuum in the mixing chamber, the opening of the main air intake is varied. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,879.

PAT. 2,009,412. Carburetor. Patented July 30, 1935.
This carburetor features a fuel feeding nozzle associated with the mixing chamber which comprises an air tube and a fuel tube. Compressed air is supplied by a regulating valve to the air tube and fuel to the fuel tube under superatmospheric pressure derived from the compressed air and coordinated with the vacuum existing in the mixing chamber. Superatmospheric pressure is varied with demands of the engine and acts upon the fuel in the float reservoir of the carburetor, the fuel being fed into the mixing chamber and regulated to bear a desired ratio to the flow of air. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,880.

PAT. 2,087,116. Carburetor. Patented July 13, 1937.
According to this patent increased atomization is possible by the use of compressed carbon dioxide instead of air. The carbon dioxide is obtained from the engine with which the carburetor is used. Exhaust gas from the manifold, controlled by a regulating valve, is also utilized to feed the fuel under superatomospheric pressure to the mixing chamber of the carburetor and to bring the fuel from the main supply tank to the carburetor. These changes permit the construction of a carburetor in which the need for air or fuel pumps is eliminated. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn.
Groups 37-22; 38-31.
Reg. No. 9,881.

PAT. 2,013,734. Carburetor. Patented Sept. 10, 1935.
A pressure feed compensating carburetor in which the fuel and main air supplies are fed into the mixing chamber under atmospheric pressure while a supplementary air supply, used to atomize the fuel, is fed into the mixing chamber through an atomizing nozzle under a variable pressure to insure complete compensation of the fuel-air mixture under all operating conditions. (Owner) Augustin H. Prentiss, 115 Girard Ave., Hartford, Conn. Groups 37-22; 38-31. Reg. No. 8,882.

PAT. 2,421,783. Position indicator for aircraft in flight. Patented June 10, 1947.
This device automatically shows the progress and position of a plane at any stage of its journey. A master map, having various sections divided into interlocking circles, is used in connection with the device. One of these sections (covering the territory to be traversed) is placed on a disk provided with compass bearings. Necessary adjustments for drift, etc., are made. Positioned over the map section is a movable indicator operatively connected to a motor. An air-responsive diaphragm at the leading edge of the wing of the plane adjusts, through a rheostat, the speed of the indicator motor in accordance with the air pressure created by the plane in transit. (Owner) Edward D. Glatz, 31 Montcalm Place, Buffalo 14, N. Y. Groups 37-21; 39-11. Reg. No. 8,883.

PAT. 2,425,877. Glow and slow acting tube. Patented Aug. 19, 1947.
This glow tube is primarily intended for recording sound effects on a moving picture film. By coating the metallic anode with luminescent material of relatively slow decay, the brilliancy of the anode is retained for a prolonged period of time after its energizing circuit has been interrupted. This produces a substantially constant flow of current through an associated photoelectric device. The glow tube is placed in a container having a narrow aperture so that film traveling in front of the aperture will have different degrees of brilliancy recorded in the sound track area on the film. (Owner) John H. Homrighous, 1029 Wenonah Ave., Oak Park, Ill. Group 36-82. Reg. No. 8,884.

PAT. 2,303,571. Clasp. Patented Dec. 1, 1942.
This clasp, for holding the wings of a shirt collar, has two curved bars secured permanently together at the middle and diverging at each end to admit a marginal portion of the collar wing between them. There is a small loop at each end of both bars. A pin passes through each front loop, through the collar, and into a perforation in the rear loop, which supports the pin and protects its point. A burr on each pin within the front loop permits limited sliding but prevents removal of pin. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Groups 39-71-99; 40. Reg. No. 8,885.

PAT. 2,324,414. Ladder attachment. Patented July 13, 1943.
This attachment for preventing lateral tilting of a stepladder (one for each leg) may be folded within a groove in the side of the leg. It comprises a foot or plate pivoted to the end of the leg, a bracing rod pivoted at its inner end to the outer end of the foot. The rod is movable longitudinally in the ladder groove. When the ladder is in use, the rod is pulled downwardly causing the foot to contact the floor. The rod or brace is placed in a pocket in the groove in the leg to maintain the foot in contact with the floor. A modification is shown. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Group 25-99. Reg. No. 8,886.

PAT. 2,333,732. Seat. Patented Nov. 9, 1943.
This reversible toilet seat has a hinge with a pintle and knuckle arrangement facilitating removal and reversal of the seat, without the use of any tool, to present a concave or convex body-contacting surface or to facilitate sterilization. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Group 25-99. Reg. No. 8,887.

PAT. 2,349,745. Identification device. Patented May 23, 1944.
Removable attachment for the head of a tumbler-lock key carries an exposed disk on which the word "House," "Garage," etc., may be inscribed to enable quick selection of the proper key. A disk shaped like the key head and with an inner bezel rim is slipped over the back of the key head. The marker disk is inserted over the face of the head somewhat like a watch crystal and a ring snapped into position to hold the device together. Holes in the disks register with the hole in the key head. All edges are smoothly rounded. Modifications are shown. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Groups 33-73; 39-81; 40. Reg. No. 8,888.

PAT. 2,350,798. Match device. Patented June 6, 1944.
Shield which is readily attached to or detached from an ordinary paper match book permits the striking of matches without danger of igniting unused matches and protects the flame from the wind. The shield is slid transversely on the striking end of the book and remains on the book until all matches are used. It does not interfere with the opening and closing of the cover. One end of the device is in the form of a chimney-like square and the remaining portion is tapered and provided with flanged side edges which slide beneath end of book and lip of striking surface. Top wall of the tapered portion is provided with a horizontal elongated slot which terminates short of the chimney. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Groups 33-73; 40. Reg. No. 8,889.

PAT. 2,350,799. Portable article. Patented June 6, 1944.
A keyless locking device for attaching an umbrella or cane, for safe keeping, to a chair by a loop which may be opened and closed. In some models the loop, when not in use, is concealed in a hollow handle. The closure of the loop has a lock with dial members having interlocking flanges and a crosshead. The owner, acquainted with the combination, sets the dial members to releasing or locking position as desired. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Groups 39-95; 40. Reg. No. 8,890.

PAT. 2,352,731. Button. Patented July 4, 1944.
Detachable button is screwed to a shank permanently fastened to a garment. This arrangement permits quick replacements when the button is to match accessories, etc. A spring within the shank makes allowance for strain placed on the bottom by heavy garments. The shank may be attached to the garment in several ways. A number of modifications are shown. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Groups 39-61; 40. Reg. No. 8,891.

PAT. 2,369,482. Handbag. Patented Feb. 13, 1945.
Handbag of the type having the usual hinged frame members is provided with auxiliary frame members for supporting a detachable slip cover so that one bag may be used with various costumes. The auxiliary frame is

hinged at the top to the other frame and the legs of both frames are hinged to common pivot pins. When the legs of the auxiliary frame are released from the pivot pins the frame may be swung outwardly and cover inserted. When the frame is swung inwardly the legs snap over the pivot pins. Corrugated springs on inner faces of auxiliary frame members frictionally hold slip cover in place. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Group 31-71. Reg. No. 8,892.

PAT. 2,380,865. Shower fixture. Patented July 31, 1945.
In this shower fixture two horizontally opposed arcuate pipes, constituting segments of a circle and supporting shower curtains, are movable toward and away from each other to adjust the size of the shower enclosure. The outer ends of the pipes are made to overlap so that overlapping of the curtains is correspondingly obtained. The pipes, pivoted at their rear ends to a pivoted mixing head and provided with meshing gear segments, are perforated to constitute shower heads whereby the spray converges inwardly from the sides rather than from directly overhead. Other perforated pipe sections may be suspended at intervals from the arcuate pipes to laterally spray the body when desired. When not in use, the fixture may be pivotally moved to a position next to the wall, offering minimum obstruction to use of the bathtub. Modifications are shown. (Owner) Claremont Robert Morris, 23 Pearl St., Kingston, N. Y. Group 33-61. Reg. No. 8,893.

PAT. 2,362,169. Shoe construction. Patented Nov. 7, 1944. Groups 30-22; 31-41-42. Reg. No. 8,894.

PAT. 2,377,460. Shoe construction. Patented June 5, 1945. Groups 30-22; 31-41-42. Reg. No. 8,895.

PAT. 2,406,091. Shoe platform. Patented Aug. 20, 1946. Groups 30-22; 31-41-42. Reg. No. 8,896.

PAT. 2,410,530. Shoe construction. Patented Nov. 5, 1946. Groups 30-22; 31-41-42. Reg. No. 8,897.

These four patents show a shoe construction which incorporates a cushioned platform. Patents 2,406,091 and 2,410,530 cover the construction of a platform unit; Patents 2,362,169 and 2,377,460 cover a shoe structure in which the platform is used. The platform assembly has an insole of rubber, cork, or other resilient material, and a sock lining of leather or the like edged by a strip which prevents spreading of the resilient material and provides a margin to which an upper may be stitched or otherwise secured to the assembly. One shoe described is of open toe and heel structure. The margin of the upper is glued to the assembly, an outsole attached, and the whole stitched together. A closed-heel shoe is also described. The heel portion of the upper partially covers the platform so that only the forward portion of the platform is visible. Various modifications are shown. (Co-owners) P. H. Lamphere, Colin W. Mathieson, and Jules Q. Strong. Address correspondence to P. H. Lamphere, First National Bank Bldg., Denver 2, Colo.

PAT. 2,422,755. Safety drill. Patented June 24, 1947.
This device is a slidable safety cap for covering a switch to prevent it from being accidentally turned on. The cap is readily movable to and from a blocking and non-blocking position. A spring normally holds it in its blocking position. The cap is open at its sides, and one end is provided with lateral flanges which slidably interfit channels in a pair of spaced rails secured to the drill. (Owner) John Strother, Apt. 52, 1964 Seventh Ave., New York 26, N. Y. Group 35-42. Reg. No. 8,898.

PAT. 2,366,638. Resilient tire construction. Patented Jan. 2, 1945.
Noninflatable tire possesses to a considerable extent the shock-absorbing and other qualities of a conventional pneumatic tire. Inner and outer bands, each having a multiplicity of spaced integrally formed cushioning blocks, are concentrically mounted on a rim of special construction. The rim is provided with a relatively wide outwardly flared or tapered central channel so that portions of the bands seat in the channel and frictionally engage its sides. The bands are enclosed and held in operative position on the rim by a casing. When thus assembled a tire is provided having a multiplicity of staggered cushions and a multiplicity of staggered substantially sealed air pockets. (Owner) Joseph C. Miller, Russell, Minn. Group 30-11. Reg. No. 8,899.

PAT. 2,336,228. Arch construction. Patented Dec. 7, 1943.
With the voussoir blocks shown in this patent arches may be constructed without the necessity of using centering. Each voussoir block has one or more lugs projecting from one side face and a recess at each end so shaped that when the blocks are fitted end to end and side by side the recesses cooperate to form passages to receive the lugs projecting from the side faces of juxtapositioned blocks of the previous course. Each block may also be formed with an opening between a pair of lugs. Appropriate recesses or grooves may be formed in the block to accomodate reinforcing bars. (Owner) Norman Davey. Address correspondence to Mann, Liddy, & Glaccum, 24 West 40th St., New York 18, N. Y. Groups 32-51; 32-71. Reg. No. 8,900.

PAT. 2,376,226. Knife. Patented May 15, 1945.
The handle and blade may be separated and a new blade substituted. The blade is formed with a shank, having companion sections provided with recesses and tongues therein, hand grips being detachably mounted on the opposite sides of the shank and formed with recesses into which the tongues fit. (Owner) A. B. Bristo, 513 ½ O St., Sacramento, Calif. Groups 33-61; 34-54. Reg. No. 8,901.

PAT. 2,352,710. Phonograph record ejecting holder. Patented July 4, 1944.
Combination record holder and ejector, which holds the records in vertical parallel relationship, may be mounted in a suitable cabinet or used independently thereof. The holder comprises a pair of spaced end walls, two upper and two lower side frame bars, a series of spaced partitions, and a rod mounted slightly below and midway between the lower frame bars. The rod and lower frame bar at the rear of the frame support the records in stored position, while the rod and the lower frame bar at the front support the records in their ejected position. An ejector lever having an exposed thumb piece is slidably and pivotally mounted on a shaft below the lower front frame bar. The lever is slidably moved along the shaft below a selected record and finger piece depressed to eject the record to its forward position. Record is then readily removed by grasping its projecting forward end. (Co-owner) Joseph J. Hart, Belmont Hotel, Chicago 14, Ill. Groups 25-11; 36-61. Reg. No. 8,902.

PAT. 2,206,485. Paper bottle cap or the like. Patented July 2, 1940.
The use of ordinary paper pulp instead of flat sheets or blanks of paper in the manufacture of high quality bottle caps or other articles of non-planar form materially reduces manufacturing costs. The invention is useful in the manufacture of milk bottle caps of the type comprising a central cup-shaped portion which firmly seats inside the bottle and an annular marginal rim portion which firmly embraces the bead of the bottle. During manufacture of the cap substantially all moisture is extracted from the pulp with the fibers matted and oriented in definite formation, and the surfaces of the cap are calendered. This results in a cap having a dense, smooth, substantially rigid, integral paper structure. (Owner) L. J. Moulton, Grove Drive, Mentor, Ohio. Groups 26-91; 40. Reg. No. 8,903.

PAT. 2,424,129. Shampoo cap. Patented July 15, 1947.
With this cap the hair and scalp may be thoroughly lathered and massaged without dissipating the lather. The cap comprises a relatively large crown of flexible waterproof material with a multiplicity of cylindrical suction cups projecting inwardly therefrom and a base band which snugly engages the head below the hair. The cap is placed on the head after the hair and scalp have been moistened with soap and water. The cap is then manipulated with the fingers to bring the suction cups into and out of engagement with the scalp. (Owner) Dorothy Vinselle, 1520 Madison St., Oakland, Calif. Groups 30-51; 39-91; 40. Reg. No. 8,904.

PAT. 2,405,270. Electric flatiron and control therefor. Patented Aug. 6, 1946.
A cordless electric iron containing a heating unit becomes energized when slipped into a wedge-shaped rest in which an electric circuit is thermostatically controlled. Contact plates on both sides of the iron engage movable contacts in the sides of the rest, activating the circuit. The iron is thus brought to operating temperature and is kept there within narrow limits. Removal of the iron from the rest renders the heating circuit inoperative, while heat stored in the iron keeps it hot for a substantial period when in use. (Owner) August H. Riess, 4425 West 169th St., Lawndale, Calif. Group 36-21. Reg. No. 8,905.

Government Owned Patents

The following patents, owned by the United States Government, as represented by the Secretary of the Interior, are available for licensing upon a non-exclusive, royalty-free basis:

PAT. 2,418,821. Plural stage hydraulic classifier. Patented Apr. 15, 1947. (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)
Ground ore, in preparation for smelting, is separated according to size and density of the particles. Primary classification is made within a unitary roughing chamber so that only a semifinished product is fed into the finishing columns of the classifier. This reduces the load on the columns and rapid classification is made of the semifinished product without interference from solids rejected in the primary classification. A further provision is a spigot discharge which can be regulated to accommodate any rate of feed, preventing surges, suction currents, and other undesirable disturbances in the classifying columns or settled bed which might contaminate or reduce the quality of the spigot product. Group 35-33. Reg. No. 8,906.

PAT. 2,424,975. Process for separating potassium sulfate from alkali carbonates. Patented Aug. 5, 1947. (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)
Potassium sulfate is removed from a mixture containing potassium and sodium carbonate by evaporation of an aqueous solution of the mixture to crystallize the potassium sulfate in admixture with the sodium carbonate. The sulfate is then washed out of the crystalline residue with a saturated solution of sodium carbonate, carbonating the sulfate-containing wash liquor to reduce the concentration of sodium carbonate by precipitating bicarbonate and trona. The result is filtered and potassium carbonate added to the filtrate to secure a solution of sulfate in a concentrated solution of potassium carbonate. Potassium sulfate is finally separated by evaporative crystallization to yield a substantially sulfate-free solution of alkali carbonate for further working up. Group 28-89. Reg. No. 8,907.

Regulations under which licenses are granted are issued by the Secretary of the Interior. Applications for licenses should be made to the Solicitor, Department of the Interior, Washington 25, D. C.

Official Gazette, December 16, 1947

PAT. 1,863,597. Device for displaying and keeping harvested vegetation fresh. Patented June 21, 1932. Reg. No. 8,908.

PAT. 2,147,741. Apparatus for controlling the delivery of air. Patented Feb. 21, 1939. Reg. No. 8,909.

These two patents refer to a display rack for vegetables, fruit, or flowers. The rack features a humidifying unit enabling produce to be kept in "garden fresh" condition for long periods of time. The rack is a vertical frame supporting inclined superimposed shelves. The humidifying unit is housed in a casing having a double conduit or air passageway. Air drawn into the conduit is moistened by a spray of water and a fine mist delivered through side arms of the unit, the mist being directed over the produce displayed. The produce overlies screening so that air may circulate freely. All shelves drain directly into the casing. (Owner) Daniel Handelan, Handelan Washed Air Co., 4006 Washburn Ave., South, Minneapolis, Minn. Groups 25-41; 35-84.

PAT. 2,284,861. Recovery of certain metal salts. Patented June 2, 1942.
A process whereby nickel chloride hexahydrate and like salts of metals of atomic weight not less than that of nickel and not greater than that of copper are obtained in completely soluble form. A relatively small quantity of sodium tartrate, potassium lactate, or similar water-soluble alkali and alkaline earth salts of organic acids is added to a solution of nickel chloride and hydrochloric, sulfuric or formic acid and evaporated to dryness. (Owner) Polyxor Chemical Co., Inc., P. O. Box 1219, New Haven, Conn. Group 26-89. Reg. No. 8,910.

PAT. 2,360,438. Color illumination. Patented Oct. 17, 1944. An electrical sign in which cut-out letters of any size are silhouetted against an illuminated panel background of changing colors. The illumination is provided by use of a vertical curved surface of embossed, multifaceted formations for blending and

reflecting the light thrown upon it by colored electric lamps. The lamp sockets are of the thermal flasher type, timed in irregular combinations. The reflections are blended and evenly distributed by the curved roughened surface. (Owner) M. A. Mills, 2725 Bailey, Dearborn, Mich. Group 39-93. Reg. No. 8,911.

PAT. 2,154,678. Dead-beat inclinometer, acceleration, and deceleration meter. Patented Apr. 18, 1939.
By use of a magnetic coupling between a gravity operated weight and indicating needle, several expensive mechanical parts have been eliminated. The instrument could be used on aircraft, automobiles or bicycles to indicate the inclination of the vehicle on which it is attached. The device is simple in construction, inexpensive to manufacture and its upkeep negligible. (Owner) Dorothy J. Hawthorne. Address correspondence to Richard E. Burn, Box 1000, La Salle, Ill. Groups 37-22-41; 38-31. Reg. No. 8,912.

PAT. 2,003,351. Power control. Patented June 4, 1935.
A remote control station is provided for controlling synchronized operation of a plurality of individual power units (or a single unit) which may be used in oil fields for drilling, pumping, etc. The station is portable independently of the power units and connected thereto only by flexible air lines and cables. A single control valve mechanism at the control station is actuated by reciprocating a single shaft for controlling simultaneous application of air pressure to the brake mechanisms and either the forward or reverse clutch mechanisms. Rotary motion of the same shaft controls carburetor throttle arms. Two switches control ignition and starting circuits. Upon application of air pressure the selected clutches are rendered operative and the brakes inoperative so that in event of failure of the air supply the brakes will be automatically applied as the clutches become released. (Owner) Le Roi Company. Address correspondence to Lieber & Lieber, Patent Attorneys, 518 Empire Bldg., Milwaukee 3, Wis. Group 35-32-59-66-69. Reg. No. 8,913.

PAT. 2,415,286. Bicycle holding bracket for automobiles. Patented Feb. 4, 1947.
A bracket for attachment to the bumper of an automobile has a laterally extending lug, the opening of which is adapted to receive a U-shaped clamp bolted to the (pedal) crank hanger tube of a bicycle. The clamp and lug are fastened together by a bolt and the bicycle supported on the bracket. The bracket and lug may also be used with a trailer hitch. Modifications. (Owner) Edward C. Hyde, Osage Beach, Mo. Group 33-59. Reg. No. 8,914.

PAT. 2,256,016. Saw clamp and file guide. Patented Sept. 16, 1941.
Device includes a frame adapted to be fastened to a support. The frame carries a saw clamp and a file holder attachment. A yoke permits reciprocation of the file between the teeth of the saw. To accommodate teeth of various depths, a rectangular rod is provided, each side of which is notched to correspond to sawteeth of various types. One end of the rod is releasably engaged by a lock to position a selected row of notches. The vertical swinging movement of the file supporting rod is limited by a set screw so that all teeth are uniformly sharpened. (Owner) J. W. Coghlan, 1912 East Third St., Pueblo, Colo. Group 38-43-69. Reg. No. 8,915.

PAT. 2,399,952. Mailbag lock. Patented May 7, 1946.
A flexible strap is permanently attached to the throat of the usual collapsible mail bag so that the strap ends hang free. A staple is riveted to one end and a hasp plate hinged to the other, the plate being slotted to receive the staple. Upturned flanges on the longitudinal edges of the plate form opposed channels into which a key operated lock is permanently fitted, the lock being provided with a bite which when closed completes locking operation. (Owner) James Taylor, P. O. Box 975, Bristol, Va. Groups 23-99; 33-59. Reg. No. 8,916.

PAT. 2,332,884. Drier. Patented Oct. 26, 1943.
A portable indoor drier consisting of an upright louvered housing mounted on a wheeled base and connected by duct to any type of heating system and used in combination with usual cellar drying racks or spaced washlines. Louvers of the drier are aligned with spaces between washrows and warm air circulated through the rows by a fan within the duct. Laundry is dried in a fraction of the time ordinarily required, after which the device may be moved to an out-of-the-way corner. (Co-owner) William Isler, 416 Leader Bldg., Cleveland 14, Ohio. Groups 33-73; 35-81. Reg. No. 8,917.

PAT. 2,426,466. Insulator for electrical wire conductors. Patented Aug. 26, 1947.
A knob-type insulator for supporting conductor wires of electrical fences firmly grips the wires and prevents sagging. The insulator has a main body portion having an inverted V-shaped channel or slot, into which the conductor is placed, and a wedge-shaped insert, which fits the slot, the inner end of the insert being concaved to fit the conductor wire. Holes are provided in the body member on opposite sides of the V-slot for nailing or otherwise securing the insulator, with the slot inward, to a fence post or other support. The post wedgingly maintains the insert in the slot. (Co-owner) Ralph E. Meech, 626 Arch St., Meadville, Pa. Groups 32-29-64; 36-11; 40. Reg. No. 8,918.

PAT. 2,426,696. Chick feed container. Patented Sept. 2, 1947.
Chick feed container base has an upstanding rim, an inner cone and a cylindrical outer wall topped by a cone-shaped cover. The inner cone is flattened at the top and held to the base by a centered upstanding bolt and wing nut. The base and outer wall are held against displacement by welding the two parts to a bar which extends through the inner cone. Both the bolt and bar have matching offset center sections which "lock," thus holding the bolt in its upright position. A feed ring may be placed over the rim. Feed is automatically replenished as inner supply moves down the surface of the inner cone to replace that eaten by chickens. The container is quickly assembled or disassembled for cleaning or adding a new supply. (Owner) John L. Kwash, Route 2, Box 108, Biteley, Mich. Group 33-73. Reg. No. 8,919.

PAT. 2,188,163. Shower curtain holder. Patented Jan. 23, 1940.
To prevent shower curtains from blowing about, several rods are suspended from the main curtain rod fixtures. These auxiliary rods are clamped to the main rod and extend downwardly slightly past the rim of the tub. The rods are slidable so as not to interfere with the operation of the curtain but may be locked in place.

The end holding rod may be inserted in a vertical pocket in the curtain. (Owner) Duralene Processed Fabrics, Inc., 116 Imlay St., Brooklyn 31, N. Y. Groups 25-62; 33-61; 40. Reg. No. 8,920.

PAT. 1,795,930. Switchboard. Patented Mar. 10, 1931.
This switchboard may be used for a system of communication embodying a number of devices by means of which visual communication is possible from a switchboard to one or more remote dispatcher stations and also from a remote dispatcher station to the switchboard. An upper and lower structural frame is provided for removably mounting the mechanism which includes both standard manual and automatic dial telephone equipment. An attendant at a central station switchboard is able to both send and receive a twelve digit coded visual message to or from six remote dispatcher stations simultaneously. Thirty or more dispatcher stations may be individually connected to any one of the six visual recorders at the central switchboard for a single operator's supervision. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,921.

PAT. 1,810,732. Program machine. Patented June 16, 1931.
This patent relates to an electrically controlled program switching machine for ringing bells, etc., at any selected time interval, through the use of a plugboard arranged with plug and jack connections for each minute, hour, day, and week designation, combined with a group of rotary stepping switches and contractors that are controlled by the minute jump of a master clock. By simply plugging any selected time on a program list, a circuit is closed to selected contacts of the stepping switches which are successively closed in a regular minute by minute sequence from any standard minute impulse master clock. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,922.

PAT. 1,910,887. Transmitting and recording apparatus and process. Patented May 23, 1933.
This patent relates to an improvement in central station switchboards and their remote dispatcher stations. Provision is made for a printed tape record of the messages sent or received at either point, including date and time of such transmission. The printing unit is self-contained within visual recorders at both central and dispatcher stations, and records, on the tape, the same information as dialed in code on visual recorders at both stations so that a permanent and convenient record is kept of each message transmission. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,923.

PAT. 1,973,727. Annunciator. Patented Sept. 18, 1934.
An annunciator system for particular use in factories and like organizations whereby employees may call a central office and, by indicator signals and warning lights, obtain help or service needed. Each indicator is a separate, removable unit arranged to form a bank of numbers or letters displayed at a central office station. The indicator is a ratcheted drum having numerals or letters on its surface. Code messages appear on the ratcheted drum when power is applied to a push-pawl each time an electro-magnet is energised by dial operation. Station calling and service required appear on a central station indicator. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,924.

PAT. 1,976,248. Dispatcher. Patented Oct. 9, 1934.
A two-way visual dispatcher system for sending and receiving coded messages by electric automatic dialing equipment between a central office and a remote factory station. The system includes banks of visual recorders, each having twelve units of indicator drums on which numerals and letters appear. These units are separately removable from the recorder bank and consist of drums revolved step by step as a magnet receives impulses initiated by dialing. The same type of unit is used in both the central office and remote dispatcher. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,925.

PAT. 2,121,684. Electrical set-up mechanism. Patented June 21, 1938.
Apparatus for electrical communication of coded visual messages from a factory substation or a like remote point to a central office station. An upper and lower bank of knobs and dials bearing numbers or letters are manually operated enabling twenty-four digit messages to be sent. Below the dials are contact points which lead to a motor-driven commutator and brush system and an advance switch to successively step from digit to digit, automatically transmitting a message previously set up and verified by a workman. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,926.

PAT. 2,130,730. Two-way electrical communication system. Patented Sept. 20, 1938.
This patent relates to mechanism and equipment described in Patent 1,795,930 (Reg. No. 8,921). In addition to the devices described, a wiring diagram is shown for a central station circuit indicating a capacity of six visual recorders of twelve digit drums. Each central station may be connected to thirty or more remote dispatchers and two-way communication may be handled by operators over six trunk lines at one time. Automatic and manual dialing is provided for selection of numbers, letters, etc.
(Owner) Simplex Time Recorder Co., Gardner, Mass.
Group 36-19-62.
Reg. No. 8,927.

PAT. 2,136,672. Electrical transmitting mechanism

and circuit. Patented Nov. 15, 1938.
This motor-driven contactor device of the commutator and brush type is used in conjunction with the set-up mechanism described in Patent 2,121,884 (Reg. No. 8,926) for the transmission of messages. A wiring diagram shows the circuits leading from knob and dial contacts to the brush system for distribution from a sub-station to a central office. The mechanism will handle a twenty-four digit message in alpha-numeric code. Also used with Patent 1,976,248 (Reg. No. 8,925). (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,928.

PAT. 2,136,711. Dispatcher. Patented Nov. 15, 1938.
This patent is a division of Patent 1,976,248 (Reg. No. 8,925). Twelve identical indicator units are removably mounted side by side in a frame adapted for both dispatcher and switchboard to display a coded message sent from factory to office. By this simple system of signals, a central office may be kept informed of progress of specific jobs throughout a factory. A central office may also transmit messages of instruction to the factory, thus eliminating messenger service, relieving a foreman of clerical work, etc. A wiring diagram shows circuits between a central office switchboard and thirty or more remote factory sub-stations. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,929.

PAT. 2,139,466. Annunciator. Patented Dec. 6, 1938.
This patent, a division of Patent 1,973,727 (Reg. No. 8,924), describes separately removably indicator units assembled in a group receptacle. Signals are displayed on an annunciator in the form of a panel at a central station, each sub-station in the factory being designated by light signals and service requested as a number signal, more detailed information being given in code form on a drum indicator. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,930.

PAT. 2,140,573. Electrical impulse generator. Patented Dec. 20, 1938.
This motor-driven impulse generator has contact points arranged on a revolving disk and a wiper contact for transmitting time signals to an annunciator drum. The apparatus is capable of delivering impulses at a speed greater than twenty per second under steady operation, or twice the speed of automatic dialing used in phone systems. The ratio of contact distance to open distance is three to seven, which proportion makes possible highest operation speed and longest contact life. (Owner) Simplex Time Recorder Co., Gardner, Mass. Group 36-19-62. Reg. No. 8,931.

PAT. 2,234,980. Radio location finder. Patented Mar. 18, 1941.
This radio location finder, for a ship or the like, comprises several fixed directional antennae arranged in pairs and spaced transversely of the ship so that lines of maximum receptivity of the antennae of each pair are angularly disposed with respect to each other. The antennae arrangement thus defines the extremities of one side of a triangle, found by ascertaining the distance to a sending station. Differential means associated with each pair of antennae are responsive to the intensity of signals received. Indicators associated with each of the differential means are operable to indicate the source of signals received by each pair of antennae. (Owner) Carl J. Rasmussen, c/o Karl Instruments, 770 Folsom St., San Francisco 7, Calif. Group 36-62. Reg. No. 8,932.

PAT. 2,397,290. Screw fitting. Patented Mar. 26, 1946.
Screw fitting assembly for sealing the passage of insulated cables through walls is particularly suitable for ship bulkheads. In assembling the fitting an externally threaded bushing is projected through a wall opening with a gasket on the bushing disposed on each side of the wall. A sleeve is then threaded on the bushing and tightened to compress the gaskets. As the cable is pulled through the bushing and sleeve a gland ring and gland are slid on the cable and loosely ride thereon until the cable is in its proper position. A compressible packing is then applied and the gland screwed into the sleeve to tightly compress the packing inside the sleeve around the cable between a tapered seat in the sleeve and gland ring, providing a watertight joint. (Owner) Carl J. Rasmussen, c/o Karl Instruments, 770 Folsom St., San Francisco 7, Calif. Groups 36-11; 37-31. Reg. No. 8,933.

PAT. 2,409,653. Toy rocket gun. Patented Oct. 22, 1946.
Gun is provided with a rocket which is charged with compressed air after it has been inserted and releasibly locked inside the barrel. A compression spring having a metal and rubber disc on its forward end is mounted inside the rear end of the barrel. The rubber disc seals the end of an open exhaust tube in the rear end of the rocket when inserted in the barrel. The rocket may be charged by using an air bulb or pump or by a simple air compressor mounted in the base of the gun. To render the rocket more realistic, harmless chemicals, or talc, chalk, etc., may be placed inside the rocket to leave a trailing cloud of smoke. Means may be provided to produce a whistling sound. (Owner) Leon H. Amdur, 72 Orange St., Brooklyn 2, N. Y. Group 39-41. Reg. No. 8,934.

PAT. 2,257,492. Glove with seamless crotches. Patented Sept. 30, 1941. Groups 23-81; 31-13-51. Reg. No. 8,935.

PAT. 2,156,140. Glove construction. Patented Apr. 25, 1939. Groups 23-81; 31-13-51. Reg. No. 8,936.

These two patents relate to the making of a glove featuring a continuous fourchette strip which insures stronger seams, more comfortable tip ends, and a fitted appearance. In Patent 2,156,140 back and front glove blank portions have correspondingly similar finger extensions separated by slots, the slots of the back portion being of greater depth. The interposed fourchette strip is joined to the two portions and forms a continuous connection which follows the outline of the fingers. The front part of the fourchette is cut at a slant at its folded crotch to insure a better fit when the severed edges are sewed together. Seams thus formed are practically invisible unless the fingers are spread apart. The continuous fourchette in Patent 2,257,492 consists of a series of strips which extend at right angles from a preceding fourchette in the series and continue uninterruptedly from side to side of each finger around the tip end. Inserts may be included at the crotch portion. Several other modifications shown. (Co-owner) Harry Bates, 508 East 14th St., New York, 9, N. Y.